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ABSTRACT

This guide is intended to help two-year colleges create viable linkages with business, industry, and labor and design and offer training programs for and in cooperation with business and labor. The first part covers the following aspects of linkages: business and industry perspectives on linkages and cooperative programming, organized labor perspectives (organized labor and America's productivity, organized labor education and training, tuition aid programs as negotiated benefits for worker's education, the role of community colleges in labor education and training programs), and two-year colleges and economic development (economic development, investment in human resources, perspectives from five leaders concerned with economic development, practical advice for community colleges, suggested economic development activities, and needs assessment for economic development). The second part examines becoming an effective linker (skills and correct attitudes for linkers, self-assessment and self-development strategies), developing a linkage plan, and establishing linkages (administrative support, promotional materials, and linkage dos and don'ts). The third part presents guidelines and strategies for providing customized training, apprenticeship programs, and cooperative education and for dealing with barriers to linkages with business and industry and with organized labor. (MN)

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Linking With Employers

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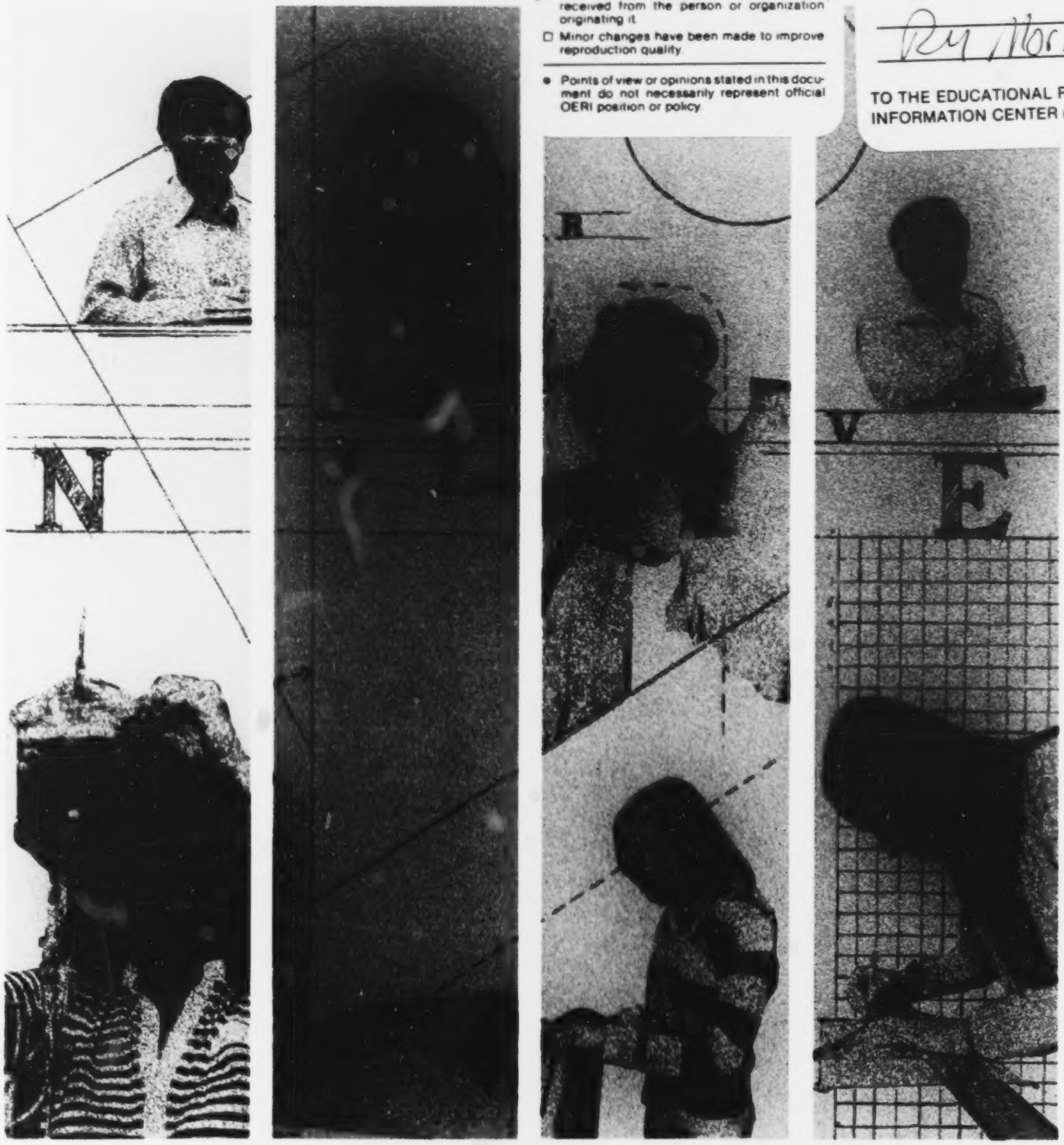

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OPTIONS
Expanding Educational Services for Adults

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY

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LINKING WITH EMPLOYERS

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FOREWORD

Postsecondary education faces major challenges for the future if it is going to remain responsive to changes in the areas of demography, labor force, economy, and societal expectations. If postsecondary education is to remain relevant, new programs to meet changing technological needs must be developed; increased sensitivity to the changing age, sex, and ethnic composition of the student population must be demonstrated; more training designed for part-time participants and for disadvantaged groups must be offered; and increased cooperation between business and educational institutions must be achieved.

In order to provide postsecondary administrators, program planners, curriculum developers, counselors, and instructors with up-to-date, reliable information, the National Center has developed a packaged set of materials entitled *OPTIONS: Expanding Educational Services for Adults*. This package is the result of a major review and synthesis of the premiere appropriate materials available. Organized around three highly targeted issues, the *OPTIONS* package contains an educator's guide, a videotape, three books, and three monographs.

The *Educator's Guide* orients administrators, instructors, and counselors to *OPTIONS*--its background, philosophy, components, structure, and use. An accompanying videotape discusses the issues and forces impacting on educational institutions serving adults and motivates postsecondary personnel to work for program success.

This publication, *Linking with Employers*, provides a rationale for cooperative efforts with business and industry. This book describes procedures for establishing linkages and conducting programs such as co-op education, customized training, retraining and upgrading, apprenticeship, resource sharing, and economic development.

Developing Curriculum in Response to Change prepares program staff to design and adapt curricula to conform to technological changes in the workplace and to meet the learning needs of adults. This book discusses the six-stage process of curriculum development: assessing needs, defining objectives, identifying resources, developing curriculum content, implementing the curriculum, and monitoring and evaluating implementation.

The three monographs enable counselors and instructors to establish and conduct special services to meet the learning and career needs of adult populations. *Adult Career Guidance* prepares counselors to provide intake, assessment, employability skill development, and career guidance to multicultural, handicapped, and older adults, as well as dislocated workers and women reentering the work force. *Entrepreneurship Education* provides models for planning and implementing an entrepreneurship education program for adults. *Literacy Enhancement for Adults* provides models for planning and implementing adult literacy programs.

Case Studies of Programs Serving Adults describes exemplary practices and programs that have successfully improved or expanded educational services for adults. This book integrates the three major foci of linking with employers, developing curriculum in response to change, and providing special services for adults.

The National Center wishes to acknowledge the leadership provided to this effort by Dr. Robert E. Taylor, recently retired Executive Director. Appreciation also is extended to the following individuals who served as a panel of experts in assisting staff in planning strategy, recommending document content, and critically reviewing drafts of the documents: Dr. Larry Hackney, Associate Dean of Counseling and Life Career Development, Macomb Community College; Dr. Ronald M. Hutkin, Vice President of Academic Affairs, North Dakota State School of Science; Dr. H. James Owen, President, Tri-Cities State Technical Institute; and Dr. Roger Perry, Vice President of Academic Affairs, Champlain College.

Special recognition is due to David J. Kalamas and Catharine P. Warmbrod who prepared this monograph. Recognition and appreciation are deserved by the following National Center Staff who played major individual roles in the development of the *OPTIONS* package: Richard J. Miguel, Associate Director for Applied Research and Development, and Catharine P. Warmbrod, Research Specialist 2 and Project Director, for leadership and direction of the project; Judith A. Samuelson, Research Specialist 2; James O. Belcher, Program Associate; Roxi A. Liming, Program Assistant; and David J. Kalamas, Graduate Research Associate, for synthesizing and developing the documents; and Monyeene Elliott, for her word processing expertise and dedication to a major typing endeavor. Appreciation is extended to Judy Balogh and her staff for providing final editorial review of the documents.

Chester K. Hansen
Acting Executive Director
The National Center for Research
in Vocational Education

11

EXECUTIVE SUMMARY

Today's community and technical colleges are facing both new and continuing challenges in terms of training and educating the U.S. work force. The past has seen many challenges met and a significant contribution made to the nation's economy--economic development activities are at an all-time high. But there are many new challenges--challenges that must be met just as completely as the older ones if the United States is to retain its economic place in the world community. The growing concern about America's industrial productivity in relation to the rest of the world is directly reflective of an emergent and critical role for 2-year colleges. Two-year institutions must now actively work to attract and retain industry and increase the scale and quality of education and training services to existing industry--they must now continually monitor the community pulse and move to meet a growing number of new community needs.

In order to establish effective linkages, postsecondary institutions must thoroughly understand business, industry, and labor managers' perspectives regarding the role vocational-technical education plays in training and upgrading workers. Postsecondary institutions must also understand the supportive role they play in the local economic development effort.

The effective linker needs to thoroughly understand the world of work and the language of business, industry, and labor. In addition, the effective linker must possess strong organizational development, interpersonal, and management skills. The effective linker must develop a comprehensive plan of action and see that administrative and marketing support is provided to the linking activities.

Linkage activities can take many forms. Customized training programs, apprenticeship programs, and cooperative education programs are some examples of these. An educational institution must pay attention to many different components in order to design, develop, and deliver quality programs that meet the needs of business, industry, and labor.

This publication is designed to help 2-year institutions meet these new challenges--and create viable linkages with business, industry, and labor. These research-based, comprehensive materials will prove useful to administrators, faculty members, and most especially, those directly charged with developing and maintaining linkages with business, industry, and labor.

Introduction

Linkage can be defined as a pooling of resources and a cooperative effort to achieve common goals. The outcomes of effective linkages with business, industry, and labor have been much discussed during the last few years. The creation of new employment opportunities, sounder and more responsive educational institutions, and an improved economy are most often mentioned. Most administrators would agree that these outcomes are goals worthy of pursuit.

In order to reach these goals in the most expeditious fashion, those responsible for initiating and maintaining linkages should have an understanding of the needs, interests, and expectations of those who manage the institutions that are likely to engage in cooperative activities with vocational-technical education. An appreciation of the perspectives of business, industry, and labor leaders is critical to effective cooperation.

Part I is designed to shed light on those perspectives--a preliminary step for postsecondary and adult administrators interested in creating viable linkages. It should also help create an awareness of the many opportunities available for cooperative activity and an understanding of the role of the 2-year college in economic development. Chapter 1 presents the views of two individuals, responsible for the management of large private enterprises, towards education and training in the U.S.--in relation to the needs of business and industry. Chapter 2 provides perspectives of organized labor in terms of education and training, while chapter 3 discusses the role of the 2-year institution.

Long-term success in linkage development also requires effective planning, solid marketing strategies, superior organization, and timely provision of quality products and services. In short, it requires sound management of available resources--whether they be people, money, materials, or time. Parts II and III provide detailed guidelines to help the prospective linker acquire the skills and knowledge necessary to provide sound management of an institution's linkage efforts. These guidelines are based upon extensive research aimed at determining the attitudes of successful linking agents and their institutions.

Part II describes the general skills needed by an individual chosen to fill the role of linking agent. Chapter 4 outlines what a linker should know about the educational arena, the BIL arena, organizational development, interpersonal interaction, and the management of institutional resources. It also provides an overview of self-assessment and self-development strategies that will be useful to anyone assigned to or contemplating a linker role. Chapter 5 provides explicit guidelines for developing and evaluating an institutional linkage plan. Chapter 6 provides a wealth of information related to specific techniques for establishing linkages. Special emphasis is placed upon the development of promotional materials.

Part III provides explicit action guidelines for carrying through the linkage plans of an institution. The major focus of this part is on customized or contract training (chapter 7). This focus reflects the growing concern of 2-year institutions about being able to effectively provide the training and training-related products required and desired by business, industry, and labor. Chapters 8 and 9 contain guidelines for developing and maintaining cooperative education and apprenticeship programs. Chapters 10 and 11 provide a summary of the many barriers to effective linkages and possible solutions to many common linkage problems.

The material presented in this book has been excerpted and adapted from previously published documents. Portions of Parts I and II have also been significantly expanded and updated. Some portions were also rewritten, reflecting a change of audience and format.

Part I
An Introduction to Linkages

Chapter 1
Business and Industry Perspectives

A comprehensive understanding of the perspectives of those who manage business and industrial enterprises is critical to the establishment of effective linkages that, in turn, will result in viable economic development activities. This chapter contains information from a collection of monographs and surveys that help provide an understanding of the perspectives of business and industry on education and training.

A CEO's View

An understanding of the perspectives of those employed in the industrial sector can be acquired by examining the views of single individuals. A 1983 speech delivered by Donald M. Frey, chairman and chief executive of the Bell & Howell Company, at the National Center for Research in Vocational Education provides insights about the American economy, job training, job retraining, and the role of vocational education. He believes that, among the steps necessary to enhance industrial productivity, significantly increased investments in vocational education should be placed at the top of our national agenda.

Mr. Frey also outlines what industry can do to play a more active role in vocational education. In a question and answer session he addresses a number of additional issues including international competition and job training, training for high technology jobs, and U.S. government economic policies.

The passage that follows is excerpted and adapted from the following document:

> Frey, Donald N. *The Economy, Productivity, and Training--A CEO's View.* Occasional Paper series no. 88. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983, pp. 1-6.

Some 800 years ago Maimonides, the sage of Cordoba, taught that there are different levels of charity. The man of goodwill sees his fellow man in need and simply gives him alms. This is one form of charity; according to Maimonides' teaching, it is the lowest. The highest form of charity, he said, is to take that indigent man and teach him how to fish. When he knows how to fish, he can then feed himself and his family and can also continue to earn his livelihood unaided.

NOTE: Please see *Case Studies of Programs Serving Adults* for examples of actual business/industry linkage activities.

Few, I expect, would quarrel with this wisdom. But it is a peculiar irony of our modern civilization that at the same time that we have discovered and unleashed the mechanisms for creating an unprecedented wealth of goods and services, we have made it more difficult for some individuals to acquire the capability of earning a livelihood.

The simple skills and tools the fisherman used in ancient times are no longer adequate; we rely today on more sophisticated equipment and scientific techniques to bring in the catch. This means that to enter the labor market, the job seeker has to be better trained and more knowledgeable than ever before. And, given the reality of today's international economy, I think it is apparent to all of us that if we are to maintain our present standard of living (let alone raise it to a higher level), we are going to be dependent on the continuous infusion of scientific breakthroughs and productivity-enhancing technology. This means that just to hold on to their jobs, more and more workers are going to need to upgrade their skills periodically.

We must take a new and serious look today at how we in this country are teaching people "to fish." More exactly, we need to assess very carefully what we are educating people for, and how we are going about it. The way we deploy our resources to educate Americans will affect as never before our productivity, our economy, and our quality of life.

There are, in my view, three types of post-high school education: liberal, professional, and vocational. Personal choice based on individual need determines the course to be pursued. I hasten to say that while my corporate activities represent the last type, the more academically narrow and strictly career orientation of vocational education will not serve all needs. It is one part of the triumvirate of education, and all parts are essential.

But we have a problem today. Labor statistics make it clear; the system is unbalanced. There is a pressing need for more vocational education--education that will lead directly to employment opportunities. I think curriculum planners need to reevaluate the role of the liberal arts in our educational system. The study of literature and history has value, no doubt; but a well-rounded educational program today must not fail to include courses in such job-related skills as computer science, laboratory techniques, electronics, and so on. I suspect that many of our unemployed or underemployed college graduates are becoming painfully aware of this. A U.S. Bureau of Labor Statistics report predicts that as a result of the oversupply of college graduates with liberal arts concentrations, one of every five holders of such degrees may be forced to take a job that does not require a degree.

I have no doubt that as a society we must hold high the objective of "education for the whole person," but if the "whole person" cannot get a job, it is pretty specious to talk about enriching his or her life.

In this regard, however, I must also affirm from the start that the distinction often drawn between "training" and "education" is becoming increasingly blurred. We used to think of "training" in terms of preparation to perform relatively simple mechanical tasks such as assembly line work, while "education" meant developing a broader intellectual aptitude for more creative problem solving. But as we apply the latest technology to the production process in all phases of industry, workers will find they must have a solid grounding in a range of fundamental skills: not only the "three R's," but also such skills as computer literacy. Equally important, they will have to bring to the job the temperament to adapt to change, to accept periodic retraining, and to acquire the facility to work with a new generation of technology. Thus when I speak of vocational education today, I am talking about career preparation in a very broad sense.

We can no longer assume that the unemployed worker's job will automatically be restored with economic recovery. The phenomenon of the "dislocated worker" who faces a midlife career shift as a result of a plant closing or technological change has become increasingly common. It is not just a narrow sector of the working population that will have to deal with unemployment: growing numbers of workers already face career unemployment. This means that their whole career has become obsolete--not as a result of economic cycles, but as a consequence of rapid and incessant change in the structure and technological base of what is now a global economy.

Total employment in the American steel industry, for example, has been reduced by 40 percent since the 1950s. Massive layoff rates in the automobile industry and in those manufacturing centers whose fortunes rise and fall with Detroit's will be only slightly alleviated by an upturn in the economy. The pressure to modernize and improve productivity makes the continued retrenchment of employment in these industries in the next 10 to 20 years virtually certain. We cannot limit our focus merely to providing unemployed teenagers and young adults with the skills to get jobs. We also have to face the challenge of reeducating the 40-year-old worker whose job has permanently disappeared.

Retraining the "obsolete" worker is a subsector in vocational education that is not being given sufficient attention. From the passage of the Manpower Development and Training Act of 1962 to the beginning of the Reagan administration, more than $80 billion has been spent in government-supported training programs for jobless and low-income individuals. Less than 1 percent of this total, though, has been applied to the retraining of workers who have lost their jobs due to technological change. Until a few years ago, such limited expenditures on retraining could be justified to the extent that unemployed workers could be expected to find their way to new jobs. Unfortunately, this rationale no longer applies to unemployed workers in today's basic industries.

The need for some fresh approaches is obvious, but I would caution that we do not yet know enough about the problem of unemployment to respond to it effectively. What are the unemployed steelworkers and auto workers doing today? What would they be capable of doing if the right kinds of training programs were available? We had better start getting some answers--fast. And until we do get some answers, I think we should be sensible enough to avoid massive federal or state outlays to deal with the problem. And we should not be so foolish as to pretend that training in such areas as welding or machining will provide people with marketable skills in the coming era of robots. As a start, I think industry, academia, and government must work closely to develop a few carefully conceived pilot programs.

In this context, the suggestion that unemployed residents in Ohio, Michigan, Illinois, and Indiana--our industrial heartland--simply move to the "Oil Patch" or the Southwest to find work is worth mentioning. This strikes me as a dismal nonsolution. Family and community ties make relocation painful. It is also problematic, to say the least, that skills outdated in one section of the country will continue to be viable elsewhere. The problem of retraining will not go away.

Social and demographic alterations will complicate the pattern of structural unemployment. In the 1970s, changing social values and economic pressure to supplement family income led unprecedented numbers of women to enter the job market. This was also the period when the children of the "baby boom" years began to go to work. As a result, in the past decade the size of the labor force has increased by over 25 percent. But for many of these women, advancing beyond service jobs at the low end of the pay scale will be impossible without participation in formal training programs.

The household with two working parents is here to stay, and both economic necessity and individual motivation will encourage increasing numbers of women to return to school to improve their opportunity to secure more challenging, higher salaried positions.

Competition for jobs today is most intense among unskilled and inexperienced youth. Fewer teenagers and young adults will be entering the job market in the 1980s, but the glut of young people seeking employment today will be a glut of middle-aged workers in 10 to 20 years. Unless we begin now to prepare these young people for the jobs of the future, we are likely to suffer for years to come the burden of a large population of chronically unemployed and underemployed--and all the economic and social problems attendant on that.

Where are the jobs of the future? Some say they are in the service industries. Another phenomenon accompanying the pattern of structural unemployment in the past decade has been the rapid expansion of the service sector of our economy while our basic manufacturing industries have languished in an anemic condition.

Almost three quarters of all American workers are now employed in what are somewhat clumsily described as service jobs. These services now constitute two-thirds of our gross returns for shareholders who must be an obligation for any corporation. But unless we build a consensus in support of the proposition that the future strength of the American economy and the vitality of our educational system are inextricably bound, both will experience a continuing spiral of deterioration.

Advances in knowledge are and will continue to be a critical source of wealth and income in the United States. Professor Theodore W. Schultz of the University of Chicago, a recent Nobel laureate, has commented that "it does not detract from the economic fundamentals set forth by Adam Smith to point out that the wealth of nations would come to be predominantly the acquired abilities of people--their education, experience, skills and health." We as a nation must make the necessary investment to improve these abilities.

We can continue, for the time being at least, to pay unemployment and welfare benefits. But these obviously are temporary measures. We should not forget the basic principle of philanthropy. Let us teach people how to fish. Industry and academia must join together in a partnership in support of this principle. I look forward to working with other business persons and educators in building that partnership.

An Industrialist's View

The views of Peter Elliman, vice president and general manager of Lucas Industries, Inc., provide an insightful look at the relationship between vocational education and the private sector. In his speech delivered at the National Center, Elliman discusses a wide range of topics--from the economics of plant location to international competition and lessons we can learn from the Japanese. His views of lifelong learning and the kinds of training that vocational education should be providing are particularly noteworthy. He also offers sage advice in terms of what vocational education can do to better understand industry's needs and better use the resources that industry can provide.

The passage that follows is excerpted and adapted from the following document:

> Elliman, Peter J. *Critical Issues in Vocational Education: An Industrialist's View.* Occasional Paper series no. 95. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983, pp. 1-8.

Industrial and economic policy in the United States is affected by many international forces and factors. Today, America stands as a beacon to the entire industrialized world as the finest country in which to live, work, and locate a manufacturing plant. It is the most advanced and industrialized nation in the world, but American industry is competing in a world economy. It is no longer just South Carolina competing against Ohio for a particular industrial plant, but rather Ohio competing against Korea, South Carolina against India, or Michigan against Japan.

I am a vice president and general manager for Lucas Industries, headquartered in Birmingham, England. Lucas is an international conglomerate that owns or controls 350 companies in 35 countries around the world. We trade in every country in the world except two--Albania and North Korea. My own particular responsibilities lie in North and South America where Lucas has some 32 companies that manufacture goods and products in the diesel, aerospace, and industrial sectors. As an industrialist, my responsibility is to maximize my resources and to return a profit to my board of directors and stockholders. Like most U.S. managers, a large portion of my salary is governed by the profitability of the companies for which I am responsible.

When Lucas evaluates a country for the potential location of a new plant, it examines such important elements as labor unions and labor costs, trade regulations, taxes, inflation, the strength of the currency over time, the availability and quality of technical schools and universities, the skill and productivity levels of the work force, attitudes toward work, the standard of living, the cultural environment. The overall climate within a given country is the climate on which decisions must be based. We can influence certain factors, such as the skill level and attitude of the work force that we employ, through training, quality circles, and other such innovations; but most factors are so embedded in a country's economic policies that we must expect to operate within them to make a profit.

For example, inflation in our Brazilian plant is running at about 110 percent annually (as of 1982), and this has become the most crucial factor to weigh in any decision regarding that plant or others in Brazil. One of the tasks on which the comptroller of the Brazilian operation is evaluated for is his ability to obtain an 8 percent per month yield on the company's investments.

The overall productivity of the work force is a most important factor. American's productivity rose at an average annual rate of 3.6 percent from 1950 to 1966, but since then its growth has continued to slow from 2.3 percent between 1966 and 1973 to less than 1 percent in 1980. Today, the American media are concerned about reported annual productivity gains of 8 percent in Japan, compared to 1 percent in the United States. The implication is that the Japanese are eight times better than Americans as workers. However, consider that in the same set of statistics showing annual gains, Vietnam improved its productivity by 53 percent. Obviously, this does not mean that Vietnam is now 53 times more productive than the United States. It simply means that from where the Vietnamese started, they have made significant progress, but no other comparison is implied.

If you were to compare the overall cost of manufacturing a certain product in various free world countries, you would find that the most expensive country today is West Germany. Let's say it will cost 100 cents to produce a product in West Germany--the top of the scale. As you come down the scale, it will cost 92 cents to manufacture that same product in France, 88 cents in England, 87 cents in Japan, but only 72 cents to make it in the United States. So today, even though the U.S. productivity gains are less from year to year than in certain other countries, it is still, on an overall basis, the cheapest free world country in which to produce goods.

Although as Americans it is important to be proud of these facts, we must remember that when Japanese workers increase their productivity growth by 8 percent annually and we increase ours by only 1 percent, they may be doing some things better than we are. Some countries have economic advantages that American business does not have. Some of the advantages are voluntary; others are government aided. Japan, for instance, does not operate within the context of total free trade. In the past, they have limited our imports into their country, while we have placed no restrictions on theirs.

Recently I had an industrialist from India tell me that he had borrowed all the money he wanted from the World Bank at 6 percent and he asked me what Lucas would like his company to manufacture for us. America contributes the majority of the entire World Bank's resources to developing countries. This man's corporation has access to our money to pay India's workers 25 cents an hour to make whatever we would like them to make. That is our competition, and we must not ignore it.

The Japanese, though, have an industrial and economic system much closer to ours than India's, and they are our number one competitor in many areas. Americans can learn many lessons from the Japanese. One example is their attitude toward work and the environment of trust existing between workers and employers in Japan, both of which strongly affect productivity. In Japan, both employers and employees work together in an environment of trust. Americans (and the English) tend to work in an environment of distrust. In fact, Americans seem to run most of their mutually dependent systems (including relationships between industrialists and educators) in such an environment of distrust.

Lessons from Other Countries

Americans typically complain about their country. In part, I am convinced that the media in this country have created this less than positive attitude, and I would hope all of you have the opportunity to go overseas and visit other countries so that you can be reminded of how fortunate you really are. This kind of nationalistic self-criticism and critical attitude does not exist in France or Germany, and certainly not in Japan.

An illustration of how the Japanese live in an atmosphere of trust may be helpful. When I visited Japan, I was given the opportunity to tour a Japanese school. As I was being escorted through the building, I noticed that an emergency exit sign was over one of the doors, one similar to ours here in the United States. The actual emergency exit light, however, was a flashlight on a magnetic base. I asked my tour guide why they used such a light that was not permanently secured when surely they knew it would be stolen. He had difficulty in understanding my statement. At the time I was unaware that the incidence of theft in Japan is minuscule. To secure the light to the wall with something more than a magnetic base was unnecessary.

To give you another example, when I toured another facility in Japan, I noticed that the workers had brought in potted plants and flowers and placed them throughout the manufacturing and loading dock areas. We, traditionally, do not allow that in America because we would end up having a department in a unionized facility being made responsible for watering flowers on company time. The Japanese workers brought in the plants and cared for them because they enjoyed it.

We forbid our workers to do some of these more basic things because we operate within an atmosphere of distrust. Distrust is very costly. When I was employed as a plant manager for General Motors, I learned about the cost of distrust. When suppliers delivered materials to our assembly plant, they were automatically stopped at the gate by security to determine whether they were authorized to enter. Once the drivers were allowed on the plant grounds, they immediately pulled their trucks up to a loading dock and proceeded to wait for hours until the materials were unloaded. When plant workers finally unloaded the trucks, we would always count the quantity of the shipment, check the quality, store it, and then a week later deliver it to the assembly line. All these delays cost time and money.

In Japan I watched a delivery truck arrive at the Datsun plant where it was stopped at the security gate and directed to a loading dock. A foreman immediately unloaded the materials and placed them right on the assembly line. I asked the Japanese foreman how he knew the supplier had shipped the right quantity. He told me he knew because he had asked them to ship that many. I asked him how he knew the quality of the items was satisfactory. He told me it was because he was paying for them. At many GM plants today, they have eliminated inspectors on the loading docks and are beginning to trust their suppliers.

Another thing Americans can learn from the Japanese is to maximize the potential of people. The goals of an industrialist and the goals of an educator are the same, namely, to maximize the potential of people. The real role of educators is to help their pupils become all that they can be. The potential of some students or workers may not be more than to be a dishwasher, but we must help them to become good dishwashers. Others may have the capacity to become doctors, engineers, astronauts, and bank presidents; similarly it must be our goal to help them become those professionals to the best of their ability.

Business and industry need the maximum that their workers can give, and so they must be careful to avoid stereotyping individuals into traditional roles. Too often, management's predetermined concept of a worker's potential can limit that worker's real contribution. For many years corporate management sought the man, not the woman, who held a 4-year engineering degree with honors. If a man barely graduated from high school, then he remained a blue-collar worker, presumably incapable of achieving within the corporate structure.

Today, we more fully appreciate the difference between a vocational student and a college graduate. The college graduate dreams of ways to make money, whereas the vocational student actually makes money for the company. The private sector values the vocational graduate far more than we ever have in the past, and we want to support vocational education and get involved. This is especially true when the question of training costs is examined.

Every time my company loses an employee and hires another, it costs the company $10,000. This figure represents the estimated average industrial cost for worker turnover. Technicians cost $20,000, and managers cost between $60,000 and $70,000. Turnover is a significant cost to industry. In Europe and Japan when you hire workers at age 18, they almost assuredly will stay with you until they retire. In America, 60 percent of college students leave their first place of work within 2 years. The turnover costs involved are astronomical.

We need to be concerned about the quality of vocational education, because 80 percent or more of vocational education students will work for companies like mine. In today's world of work, only about 25 percent of the available jobs require a college education. Yet the colleges and universities keep recruiting and graduating people in fields that are already saturated. Interestingly, in the state of South Carolina, one of the largest groups attending technical colleges is college graduates who cannot find jobs. Higher education serves an important role in America's future; it makes an invaluable contribution to the areas of basic research and the professional fields. Without higher education our society would not be nearly as technically advanced and culturally alive. However, higher education is not appropriate for everyone, and here in America many students and parents have been deceived into believing that they must possess a 4-year degree to maintain a good standard of living.

Vocational Education and the Private Sector

A question of credibility for vocational education in American still exists today. Vocational schools do not have the respect of the public yet. Vocational instructors and others in vocational education are not as highly regarded as the teachers and professors who teach "real school." But, fortunately, this is changing.

A fundamental point professional educators need to understand is that today's industrial workers must never cease learning and growing. Regardless of what individuals have accomplished or learned up to a point in time, in 5 years their skills will be obsolete and they will have to be retrained. Let me share some insights about education from an industrialist's viewpoint. Last year I delivered a speech to a conference of educators, and during the discussions that followed, a school superintendent bemoaned the fact that he has to deal with educating people for 12 years. Then a university president complained about having to deal with educating people for 4 years. My response to those comments is that we industrialists have to deal with their end products for 48 years; every 5 years we have to teach them a new skill. Furthermore, many of these people never really learned how to study effectively so that we can retrain them easily.

I am concerned about the issue of teaching job-specific and even industry-specific skills in vocational education. Recently I spent some time in Atlanta observing the displays at a vocational and technical training convention, and while I was there, a salesman tried to sell me a laser gun. Obviously, I was not interested in purchasing a laser gun, but I was interested in determining just where the market for a laser gun was in education. He told me he was selling them to vocational educators all over the country. As an industrialist, I am pleased that vocational education is eager to meet industry's high-technology training needs, but training of this type cannot be done effectively in vocational schools. They have neither the facilities nor the personnel to do it right, and furthermore, it is so specialized that such attempts become counterproductive.

Vocational education in general should not be offering training at the threshold of technology because it cannot really afford to pay for it. Furthermore, the money that the public school system invests in this new technology will be wasted, because the equipment will be out-of-date before students graduate. A vocational school cannot train students on a laser gun for a job in my company unless that school can continue to stay at the threshold of technology in the laser guns that my plant will be purchasing. I would much prefer that the schools concentrate on teaching their students the basic, transferable vocational skills that they will need when I teach them the applied technology I utilize. The basics are the skills that business and industry can most capitalize on in years to come.

Another issue concerning me is that the message about industry--what it is and the principles it operates under--is not filtering down through the school system. At Lucas Industries, we once hired a young lady who was 19 years of age and had been recently graduated from high school. She had been with us for 4 months when she quite sincerely relayed the following observation to me. "Mr. Elliman, you really surprise me. I didn't know you worked in the summer; I always go to the beach in the summer." What made this young woman think that people don't work in the summer? Her SAT scores were between 900 and 1000; she was a high school graduate; and she did not even know that people in the labor market work year-round. Her error is only one example of the kinds of misinformation that many new workers have.

Career guidance counselors need to be more concerned about the type of services they provide to students. In my state, for example, out of 100 high school principals and counselors attending a recent conference, only 2 had ever been in an industrial plant, yet plants are the major employers of their students. These are the people who are advising tomorrow's youth about the work world, and they do not even understand its problems and needs.

Secondary and postsecondary standards are also issues that demand attention in the field of vocational education. In South Carolina's school system, graduates from the secondary schools are not necessarily qualified to enter a postsecondary technical training institute. My question is, Why aren't the technical institutes and the high schools collaborating with each other? Why are the high schools graduating students who are not qualified to enter the next level of training? If they are not qualified for this, then they certainly cannot be expected to go out into the world of work and earn a living. Increasingly, the public is going to hold the educational profession accountable for its actions.

There are things that you, as educators, and I, as an industrialist, can do together to alleviate some of the problems. This institution, the National Center for Research in Vocational Education, is obviously not going to convert the nation single-handedly. South Carolina may have the best vocational education system in the country, but the National Center is not going to have much impact on South Carolina until industry and education work together. Educators, by themselves, do not have the clout to make the changes that are necessary to reindustrialize and retrain the people of this country.

Recommendations for Action

Let me try to make clear to you what it is that I--as a representative of industry--want from you. Your job as an educator, whether you like it or not, is to develop and sell an end product, namely, a student. The student's first job upon leaving high school is to sell his or her skills to someone like me. You must train your students to acquire those marketable skills or I will not buy them. That is a fact.

One of the problems you face, however, is that the private sector is unable to tell precisely the occupational skills it will need in 10, 20, or even 5 years. A major fundamental in operating our plants is that we must be flexible in what we market; consequently, we do not know what we will be manufacturing in 1995. Furthermore, with the rapid changes in technology, we do not know whether we will need laser technicians or robotics technicians or both. Given that fact, I have some ideas of what you can do for me, always bearing in mind that whoever I hire will have to be retrained every 5 years or so.

One way to describe what I want is to tell you what you would have to do if you, as individuals, wanted to work in my plant. First, you would have to apply for a job, and if you were accepted, you would go through 6 weeks of preemployment training on your own time, for which Lucas would not pay you. The training program would be operated by the local technical college, with company trainers overseeing it. At the end of the training program, you would still have no guarantee of being hired. You would have only been accepted into the course--not guaranteed a job. During those 6 weeks, we would watch for people with the right attitude toward learning and working. As an example of what we teach, in our training program you would become proficient in such basics as metrics, because teaching you about laser technology is pointless if you do not even understand the metric system.

Suppose that you got through the 6 weeks of unpaid training. If I hired you, you would next be paid to go through another 3 months of training, but you would not go to work in the main plant until I considered you to be ready. My plant of 450 people in South Carolina has 12 full-time instructors and a budget of $1 million per year for training. We realize we have to get the maximum out of every worker in the plant, so we have to look for people who are trainable and who have a positive attitude toward learning.

No real criteria exist, of course, for just how good each worker must be, but all companies need people who are responsible. Our managers pass accountability and responsibility down the line to the shop employees. Let me give you an example of how important accepting responsibility is for our workers. While touring my plant with a visitor one day, we stopped to talk to one of my workers whom I'll call Mary. I asked her to explain her job to the visitor and to tell him where she had worked before she joined my company. She told him she had been a checkout clerk at a supermarket. Then I told the visitor that the equipment Mary was running was worth half a million dollars and that she had been with my company for 2 years. I then asked Mary if she had any problems that day. She said, "As a matter of fact, Peter, I have a problem; I have a 3-micron taper." Three microns is about 30-millionths of an inch, and in our work, a 3-micron taper is a serious problem. I asked Mary if she could take care of it. She said she thought she could, and because we operate under a new style of management, I walked away and left it to her. Of course, I would have been less than a good manager if I had not talked to the supervisor and had him check on Mary's problem later in the day. Incidentally, I do not recommend this new management style if you are prone to ulcers.

My real point, though, is that a company with good training and good management policies can take a checkout clerk who used to make $3.25 an hour and, inside of 2 years, have her correcting a production problem of 30-millionths of an inch. But we need the educational system to turn out trainable graduates, and we need educators to teach students about industries and how they operate. This becomes very difficult if educators never spend time with the companies' representatives and never come to understand industries' needs.

Education also needs to develop courses that will teach people how to handle, manage, or just work with other people. People can get degrees in business from most universities without ever taking one course in how to supervise and work with people. You can go through just about any engineering school in the country to become a manager without taking any courses in human relations. Graduates from vocational schools may become supervisors or even managers, yet they get no training in working with people either. If we study the Japanese, Korean, and Indian companies and listen to the theories about consensus management and Theory Z, clearly the success of these companies is based on how they get people to work together.

One of my greatest problems as an industrialist is orienting college graduates to my plant and teaching them how to manage the workers who actually run the equipment and who are, for the most part, high school graduates. The first thing I tell college graduates is that they should not make decisions. Yet, all their lives, up until that point, they have been training to make decisions. The new style of management, however, dictates that the people who do the work and understand the problems are the best qualified to make the decisions; managers are responsible for facilitating the decision making.

The most valuable resource my company has is its workers. They may be relatively uneducated, at least academically, but I can guarantee that the woman operating that one-half million dollar machine knows far more about it than any college graduate working as a manager. The moment Mary's manager, for example, interferes and tells her how to do her job, she will know he is wrong. She will have to do what he says, but she will know he is wrong. That manager will cost the company a lot of money until he learns to let her do her job, or at least to listen to her solutions. Industry needs people who have been taught how to manage and how to work with people, and that is something our educational system must improve upon.

In South Carolina, we are trying to address some of these problems. First, we have initiated a program to give teachers, counselors, and principals the opportunity to visit our plants 1 day a week. There, we show them what we do and what kinds of skills our workers need. In this program, teachers visit a certain number of plants every year. The teachers have given us problems, though. They want to be reimbursed for their time if the visit runs longer than the regular school day. Consequently, we have to finish each visit by 2 p.m. to allow them travel time. The school principals like the idea behind the program but want somebody else to pay the $50 for the school buses to transport teachers, so we have to work on those hurdles.

We are operating a technical scholar program in South Carolina that takes the best 18-year-olds available who are not going to college and places them in a special cooperative industrial program. We now have 32 companies involved in this program that offers technical school courses in the morning and an opportunity to work in the afternoon. The 3-year program is quite revolutionary because a consortium of companies collaborates on what students should learn and what we will pay them to learn. This program was created when all the companies realized they had a mutual problem--a shortage of workers with critical skills. We are very proud of the graduates of that program; they have gone on to become talented and committed workers.

Another of industry's efforts involves collecting extensive data on our workers who are high school graduates to determine their opinions and experiences for up to 5 years after their graduation. We hope this will give us information that will help us improve our own training programs and management systems. But it should also be useful information to the schools who turn out these graduates.

Quite a few high schools, vocational schools, and technical colleges have advisory boards. Having them is a good idea, provided the schools make meaningful use of them. Too many times, advisory boards are ineffective because they are not used responsibly. Educators have a high--very high--responsibility to use industry people on such boards, and use them well. But do not expect an industrialist to go to a vocational school and say, "What can I do for you today?" The responsibility lies with educators, first. Teachers should take enough interest in their end product to come to industry and request help. Most industrialists are willing, even eager, to contribute time, energy, and resources.

Remember that American business and industry are competing against business and industry in the rest of the world. This competition is not a game; it means real jobs that affect real lives. Very few will ever have the experience that I have had of laying off 300 people because there was no work. It is heartrending to see the desperation on people's faces. It is pure torment to hear the report of a man who, 6 months later, could not find a job and committed suicide.

The Indians, Koreans, Japanese, British, and others are doing all they can to create and sustain every last job in their countries. Unless we can learn to work collectively on our most precious resource, our people, to help them achieve their best and to make a contribution to our economy, we will lose the battle to create and keep jobs in America. Preparing students to become effective workers is not a game, and you, the educator, are involved, whether you want to be or not.

Summary

The thoughts of the two business executives offered in this chapter revolve around a number of key issues. Mr. Frey points out that it is important that both business and industry and education take a hard look at how training and retraining are accomplished--how people are trained "to fish." He cites a need for more vocational education, coupled with fresh approaches to education and training, as one means to improving national productivity. He also feels that there are many lessons to be learned from our competitors in other countries.

Mr. Elliman reminds us of the sometimes forgotten fact that profit is the motive underlying all business activity. He also reminds us that productivity generally leads to profit. And productivity is improved by maximizing the potential of people.

In relation to human resource development he notes that both public and private sectors should make every attempt to improve the quality of vocational education, and remain aware that in today's changing society lifelong learning must be the norm for all workers.

He also voices concerns about the job-specific skill training problem faced by many vocational-technical schools and questions the ability of vocational education to pay for this kind of training.

Chapter 2
Organized Labor Perspectives

The union movement in the United States is a complex phenomenon with approximately 200 national and international unions and employee associations and about 64,000 local unions, many providing education and training to their members. It is a force that should be understood by technical and community college personnel who are concerned about developing effective linkages with employers. The two monographs included in this chapter will help provide an understanding of the perspectives of organized labor in terms of education and training.

Organized Labor and America's Productivity

Organized labor is in a position to radically affect worker productivity in this country by the policies and stances they adopt in relation to education and training practice. Kenneth Edwards, director of the Skill Improvement Department of the International Brotherhood of Electrical Workers, provides an insightful look at the perspective of organized labor in his presentation.

Edwards offers some very interesting facts about U.S. productivity, painting a picture quite different from that of many economists and futurists. He also discusses the impact of technology and examines some educational considerations. He goes on to provide a useful overview of training and retraining practices within industry and explains the role of organized labor in these undertakings. His views on the cooperation between labor and vocational education and on the desire of organized labor to be a viable partner in this relationship help to explain how labor people really feel. Also included is a synopsis of what organized labor is doing to create new jobs.

The passage that follows is excerpted and adapted from the following document:

> Edwards, Kenneth R. *The Perspective of Organized Labor on Improving America's Productivity.* Occasional Paper series no. 89. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983, pp. 1-10.

One of the most frequently used or overused terms on the American scene today is "productivity." When we Americans attempt to describe our relative position in the world in terms of trade or international exchange, or when we think about

NOTE: Please see *Case Studies of Programs Serving Adults* for examples of actual organized labor linkage activities.

our various economic enterprises or sectors, we tend to dwell on one term--productivity.

Doomsday prophets would have us believe that we are not a productive nation and that the United States has reached the limits of possible growth. They attribute certain economic declines to the law of diminishing returns. They point to an ever-increasing population, diminishing natural resources, continuing unemployment, polluted environments, and the lack of production by our industrial sector.

Although at this time it may be true that our manufacturing investment stock has not expanded as rapidly as our work force, and that this may have caused a decline in the amount of capital invested per hour of human labor, the United States is still the most productive country in the world (Marshall 1982). Our closest competitor in terms of productivity is the Netherlands, which produces 92 percent of U.S. output per hour, it is not Germany or Japan, which produce 89 percent and 68 percent respectively.

An Historical Perspective

One hundred years ago our total gross national product (GNP) was approximately $9.2 billion or $190 per individual. In 1979 our GNP was $2.5 trillion or $11,000 per individual, which--if converted to 1879 dollars--would be $400 billion, showing an increase of about 43.5 times over the GNP of 100 years ago.

Over the last 100 years, we have had a ninefold increase in output per worker. In 1879 our production was running over $450 in goods per worker. In 1979, we were producing $24,000 per worker, which--if converted to 1879 dollars--would be approximately $4,000 per worker. Furthermore, over the last 10 years (1969-79) our output per-paid hour worked has increased 12 percent.

We also have had a considerable change in our work force. One hundred years ago the typical American worker was self-employed. He was a male, a farmer, and highly independent. Today the typical American worker is employed by somebody else, is an urban dweller, is as likely to be a woman as a man, and for the most part is highly dependent on other people.

Contribution of Organized Labor to Productivity

Economist John Kendrick (Froehlich 1981) suggests that whereas some people believe that labor's contribution to an increase in productivity is no longer significant, labor may be the only factor in the classical equation that contributed more to productivity growth during the 1968-78 period than it did from 1948 to 1964. This point is amplified when we consider that the cost of the labor for building a new home has decreased from 33 percent of the total cost in 1949 to 17 percent in 1977 and has declined an additional 1 percent from 1977 to 1980 (National Association of Home Builders 1981).

There is mounting evidence from studies by Allen (1979), Brown and Medoff (1978), Clark (1978), Connerton, Freeman, and Medoff (1979), and Frantz (1976) that unionized workers are more productive than nonunionized workers and that unionization increases productivity in an establishment.

LeMasters (1975) suggests that union establishments offer higher wages and therefore attract better workers. Riemer (1979) credits job security and training opportunities as factors that enable union establishments to attract high quality workers. Bok and Dunlop (1979) more accurately suggest that collective bargaining is the key to maintaining the caliber of workers.

Organized labor's existence is based on its fundamental ability to protect its own members and to respond to their socioeconomic needs. Before the establishment of labor unions in America, workers were treated more as beasts of burden than as human beings. While some authors would have us believe that the American labor movement is syndicalist in nature, this is simply not true. Present-day labor unions are content to lobby for higher wages for their members (based on gains in productivity or employer profits), better working conditions, and protection for the majority of their members.

Many of the gains made by organized labor for its own members have benefited all those who work and live in this country. Free public education, Social Security, unemployment insurance, fair labor standards, and legislation dealing with civil rights, safety and health, equal pay, and employee retirement income are but a few of the achievements for which organized labor lobbied and that are now enjoyed by all citizens. Organized labor does not want to transform the economic system, although its quest for social progress has, in the opinion of many, placed a burden on this system.

There are many areas in which organized labor may influence the factors of productivity. Labor-management cooperation, wage differentials, innovations, training and retraining programs, motivation, labor education, approval or disapproval of new technologies, and collective use of pension funds are but a few of these ways. However, the amount of influence greatly depends on each of the 175 national or international unions, their local unions or lodges, and their members. Each national or international union may offer varying approaches that are dictated by their individual structures, goals and objectives, their liberalism or conservatism, political influence, and professionalism.

DeSchweinitz (1949) suggests that the largest union gains leading to increased productivity have emerged from the crisis for survival. Threats of plant shutdowns, a loss of jobs, wars, and strikes have historically led both labor and management to seek ways to improve production. Although this may sound like a simple process, history reveals that it has been complex, especially in cases where management has asserted its rights and labor has retaliated.

Industrial Productivity

DeSchweinitz's judgment on productivity is based on the manufacturing industry. In order to make specific statements about productivity in a particular industry, it is essential to understand not only the operation of that particular industry but also the occupational groupings within that industry.

Industries and occupations that utilize large amounts of technology may achieve gains in productivity through the interaction of human skill, machines, and technology. On the other hand, significant advances in productivity are difficult to achieve in industries and occupations that are characterized by a very high degree of personal services. Productivity ratios for these industries and occupations are affected largely by the skills and efforts of individual workers and not by the interaction of human, mechanical, and technological capabilities.

Productivity and Employment

It should be noted that improvements in productivity do not necessarily enhance employment opportunities. Between 1950 and 1969, the manufacturing industry in the United States increased its output by 150 percent and its employment by 33 percent. Since 1969 there has been no increase in employment in the manufacturing industry, yet output has increased by one-third.

Advances in technology not only enhance our life-styles by increasing the amount of leisure time at our disposal, but they can also adversely affect employment rates in a particular industry. As machines become technologically inefficient and require replacement, labor requirements for operating them are correspondingly affected, especially for low-skilled or medium-skilled workers. As the new machines take over more of the work load, those workers who are not displaced are forced to make the psychological adjustment of getting used to working for a machine. Technological advances also affect productivity indirectly by creating new health hazards, by increasing stress and stress-related illnesses, and by altering workers' attitudes.

For 20 years Jeffrey Riemer (1979) studied the construction industry from within as a craftsperson. He concludes that despite modular construction techniques, advanced building design, and production efficiency measures, segments of the construction industry are experiencing severe production problems as a result of a decline in the quality of individual work. He attributes this decline to the fact that craftsworkers are being so coerced into meeting production standards that the quality of individual work has begun to lose its importance, and pride in one's work has become meaningless.

Educational Considerations

Donahue (1979) echoed Riemer's remarks when he noted that one of the results of technological advancement has been a misallocation of the work force, resulting in morale problems in the workplace. He cites an overeducated work force as a possible cause--with overeducation helping foster the work force's belief that their skills are not being fully utilized.

Between 1970 and 1976, the proportion of American workers with 4 or more years of college education increased by more than 60 percent in clerical, sales, service, and blue-collar occupations--areas that have traditionally employed very few college graduates. Before 1960 many employers of the apprenticeable trades thought they were fortunate to have an average apprentice applicant with 10 years of formal education. Today the national average for apprentices is slightly over 14 years of formal education.

Over the last 20 years, technological advances have compelled workers to acquire additional skills and often some additional education in technical areas. Yet employers are still looking for the basic skills and education competencies that indicate that an individual will perform well in the workplace. Employers still want to hire people who can demonstrate basic verbal and mathematical skills and who are able to communicate clearly, to reason logically, to read with understanding, and to compute accurately.

A high school diploma by itself does not indicate sufficient technical preparation for most occupations, but neither does an undergraduate degree. Certain professional occupations do require a baccalaureate degree, but these occupations account for only 1 in every 19 jobs. However an applicant for any of the remaining 18 jobs will need technical training, work experience, or training in a particular skill or group of skills.

The Impact of Technology

There are growing numbers of individuals who feel that by the year 2000 the only entry-level jobs available will be in the service industries, and even those jobs will be scarce. This will probably be the case, if we assume that today's employment standards will still be operative then. We have already seen many entry-level jobs abolished or reduced in number over the past 5 years. For example, the Bell System employs 68,500 fewer telephone operators today than it did in 1960. Over the past 35 years, employment in our nation's rail systems has declined by 65 percent, and almost all entry-level jobs have become obsolete by virtue of new technology. Computers are now doing the work of well over half a million clerks. Bank tellers are being replaced by machine tellers. Employment of compositors and typesetters, who account for 39 percent of the craftsworkers in the printing industry, is expected to decline by 25 percent by 1985.

In addition to computers, industrial robots have also taken over many jobs. Robots are not only replacing entire assembly lines, but are also being used for die casting, investment casting, forging, injection molding, material and parts handling, warehousing and storage, supply delivery, interoffice delivery, tool handling, mixing liquids and paints, welding, stamping, painting machine operations, and loading and unloading operations.

If we continue to introduce devices such as computers, advanced communications devices, digital systems, speech synthesizers, high-definition television, robotics, and optronics, without retraining displaced workers or without giving thought to institutional restructuring, then we invite both white- and blue-collar unemployment. At the same time we create pockets of occupations with skill shortages.

Although many people predict that technological change will have an impact on all occupations, with the greatest impact on white-collar occupations, no one can accurately foresee the total impact on the workplace. Nor can anyone say with certainty what types of jobs will be available or what kinds of education and/or training these jobs will require.

Because of these uncertainties, organized labor at the international, national, and local levels has moved in several directions to deal with these changes. Labor's responses are described by Murphy (1981), who cites the following four categories of contract provisions and technological change clauses in collective bargaining agreements:

- The introduction of technological change
- The changing nature of jobs resulting from the new methods or machinery
- The changes in the skills required of workers, and any resulting changes in worker status
- The reduction in the work force, possibly as a consequence of technological change

Since 10 percent of all technical knowledge becomes obsolete each year, the effective life span of technical training grows shorter and shorter. This trend must be promptly confronted through better occupational planning, including education, training, and retraining.

Toward a National Policy

If our nation is to reach the point where our productivity keeps pace with technological developments, our educational and training institutions must keep pace with the new technology. Schools must impart the skills that will be an asset to a successful career, beginning in a disciplined atmosphere with the skills at the lowest grade. Without a clearly articulated national policy, our schools will continue to lag behind workers' training needs.

We need a national technological policy that addresses the likelihood of a broad range of radical social changes and changes in our work force. This policy should, at the very least, address the following issues:

- The effects of technology on our work force
- Ways to avoid or alleviate the social and economic problems of unemployment
- The most advantageous research directions to pursue
- Statistical projections of new employment opportunities
- Compensation levels for those whose jobs are made obsolete by new technology
- Effective utilization of personnel

- The effects of technology on the education, training, work, and leisure time of the average citizen

In reflecting on the declining rate of productivity growth, Congressman Stanley Lundine believes that four areas must be addressed if productivity is to improve:

- Capital investment
- Research and development
- Regulatory reform
- Human resource development

Of the latter, he says, "Human resource development is the least understood factor affecting productivity performance and in my opinion in the long term, perhaps, the most crucial" (U.S. Congress 1981, p. 4).

Few statistics are available about our human resources on a national level. We do know that we currently have a labor surplus, but with the exception of wartime, the United States has experienced a labor surplus as long as we have been collecting labor statistics.

Reports of skill shortages and projections of demands for skills in the work force are often questionable. For example, Dale Church (1980), former deputy undersecretary of defense for acquisition policy, testified before the House Armed Services Committee and noted that many U.S. machine shops cannot produce much of the hardware required for our defense system because they are unable to employ sufficient numbers of skilled tool and die makers and machinists. He further noted that more than half of our skilled tool and die makers would retire by the end of the 1980s. This problem is compounded by the fact that the industry is producing only about 25 percent of the number of skilled journeyman that are needed to replace those who are leaving.

On the other hand, Schultz (1980) offers a much different perspective of the shortage that Church reported. Schultz felt that no shortage existed, citing the fact that the majority of companies in the metal trades are very small, employing only about 10 percent of the country's machinists. He was of the opinion that small businessmen are notorious for their complaints about skilled labor shortages.

There are data to support both the opinion of Church and that of Schultz. If we apply basic economic principles to the discussion, Schultz might appear to be closer to the truth, since we have not seen signs of a wage push for either machinists or tool and die makers. Nor do we see any attempt by industry to hoard individuals who possess critically needed skills. American companies have made little attempt to prevent these skilled workers from leaving the industry or from being laid off.

Training in Industry

Since similar obse[illegible]s may be made of most industries, we [illegible] begin to wonder what our present national inventory of human resources really is. If there are industries in which certain kinds of workers are in short supply, we need to find out what the shortages are and how we are preparing to meet time. Industry claims to be spending $30-$60 billion annually for training. The Conference Board (Lusterman 1977) states that three out of five companies are offering in-house training programs to prepare employees for supervisory or managerial responsibilities, and that nearly as many companies are offering courses in technical and functional skills. The Conference Board further reports that 89 percent of the companies surveyed offer tuition-aid programs.

On the other hand, Jensen (1977) reports that 97 percent of the plants surveyed in his study indicated that they had a definite need for training. They reported that 89 percent of their present staff of maintenance craftsworkers needed additional training. Of the new workers entering the maintenance field, 75 percent could demonstrate no training whatsoever.

These statistics led to the conclusion that 80 percent of the companies have shortages of personnel trained in maintenance.

Herb Levine (Chamot and Baggett 1979) states that although a large percentage of American industry offers tuition-aid programs, only 2-5 percent of eligible workers actually take advantage of such programs. Most union members either are unaware of such programs or assume that the programs are designed for another category of workers because they have been given that impression by the company.

It is worth noting that most of these tuition-aid plans are unilaterally controlled. Because of this, there is little that a union can do for a member who has been denied participation in the program, since the plan is usually not subject to the grievance procedure. Many unions regard these tuition-aid programs as devices that primarily serve the employer as a source of windfall profits, rather than as devices designed to benefit employees and to enhance the company's productivity.

In some cases, the employees who do take advantage of tuition-aid programs are those who want to get out of the plant. They are often technicians who already have an educational background on which to build.

The American Federation of State, County, and Municipal Employees (AFSCME) in New York City has made excellent use of negotiated tuition-aid programs. They have insisted that tuition-aid funds be put at their disposal, and, in turn, they have contracted with institutions that are providing upgrading training for their members.

Other industrial unions have begun to give serious consideration to negotiating for tuition-aid funds. The United Auto Workers (UAW), for example, is negotiating for paid educational leave or time off the job for education and training at the employer's expense. New contract settlements, such as the new Ford Motor Company agreement, call for the retraining of those workers whose jobs would be affected by new technology.

Organized labor has had a tradition of concern for in-plant training. Unions feel that a great deal of on-the-job training is training by "osmosis," and the trend today is for unions to attempt to gain more control over this type of training.

In their effort to obtain training for their current and future membership, many unions elected to tap into federal funds when such funds were more available than at present. They obtained funding under the National Defense Act, the Area Redevelopment Act (ARA), the Manpower Development and Training Act (MDTA), the Comprehensive Employment and Training Act (CETA), the Trade Adjustment Assistance Act, or through special grants from one of several federal agencies. In the past, these funds served as seed funds for apprenticeship endeavors and for short-duration upgrading programs. Smith (1981) indicates that very little is now being done by the federal government to retrain experienced workers who have been displaced or who anticipate displacement. Smith further states, "It would be more effective in promoting economic growth to retrain these workers or other nondisadvantaged persons than to focus on the disadvantaged."

Under the apprenticeship system, unions play a major role in determining the nature and quality of training programs. Unions representing the building trades, the metal trades, and the maritime trades (and also a few industrial unions) have been negotiating apprenticeship training programs since the turn of the century. Both the building trades and the maritime trades have established their training programs through trust funds, which have served as the model for the English grant-levy system and also for similar programs found in South American countries.

There is always a need for education and training programs. One of the most pressing needs is to educate workers to appreciate the need for further education, training, or retraining. Fein et al. (1981) sum up the matter by stating that the training function is to change attitudes. To accomplish such a change, it is necessary to inspire in workers the desire to change. Workers may have to experience a kind of psychological jolt, or what Massey (1976) terms a "significant emotional event," in order for the change to occur.

Some individuals' value systems have been molded in such a way that throughout their lives they tend to desire education and training, which they see as being inherently good, and to accept change as a part of life. For these workers a significant emotional event, such as a plant closing, a reduction in force, or a firing, need not occur to prompt the workers to avail themselves of additional education and training.

Although union members have been exposed to all types of education and training programs, most established members (such as journeypersons) prefer short, no-frill courses that are timely and are taught in a familiar environment. Some unions have attempted to use transactional analysis and sensitivity training to develop interpersonal skills, but the most successful programs of this sort have been developed using role-playing techniques. Although programmed, modular, competency-based education and training methods rank high in both knowledge acquisition and knowledge retention, such techniques have been found to be extremely weak in changing attitudes and developing interpersonal skills.

Unions and employers vary greatly in their approach to the design of vestibule and apprenticeship programs. Some unions have cited excellent results using modular, competency-based techniques; others have had extremely poor and somewhat negative results using such techniques. Chief problem areas have included the failure to develop interpersonal skills, reasoning ability, or problem solving skills.

Unions and employers often disagree on the method to be used for developing programs. Employers prefer narrow, specialized development. Unions, on the other hand, prefer broadly based programs that develop a maximum of transferable skills. Unions also feel that broadly trained members acquire a better base on which to learn to adapt to change, and therefore require less retraining than those who have been subjected to narrow, specialized training.

Two areas that must be given consideration in designing programs are (1) the individual's freedom to make decisions on the job and (2) the effect of such decisions on the welfare and safety of the general public. In the final analysis, program development depends on the ability of individuals to cope by exercising independent judgment in situations that could affect the lives of others or on the operation of highly technical and expensive equipment.

Labor-Vocational Education Cooperation

In the late 19th century, organized labor turned to trade schools in Chicago to educate union members in certain vocational skills. In an effort to prevent jobs from going to alien workers, unions found it necessary to tap into the existing system of trade schools that were equipped to impart the up-to-date skills needed by their members. Unfortunately, a very real rivalry has evolved between the vocational education system and the apprenticeship system in our country today. This rivalry is most noticeable in the service and industrial trades, but actually exists in all the trades. It is not a peculiarly American phenomenon, but exists in most Western countries. It is characterized by an inverse relationship between the strength of apprenticeship training and that of vocational education. For example, Austria and Germany have very strong apprenticeship systems and rather weak vocational education programs. France and Sweden, on the other hand, have strong vocational education programs and weak apprenticeship systems. Canada seems to be the rare exception, where both systems coexist in a rather efficient manner. Our efforts in research and development in vocational education should be expanded so that each system can learn what it does best and then develop its strengths.

Certain fundamental questions need to be studied in light of the question of productivity. We need to research how and why people learn, and how that learning can be made more efficient. Students need to be taught from an early age to learn efficiently, to develop self-confidence, and to accept the value systems that will help them be productive as students and later as workers. Competencies that are being utilized as criteria in today's schools should be examined. Are the competencies adequate for the wide range of skills demanded in the workplace? Should there be more emphasis on interpersonal skills for dealing with employers and coworkers.

Additional research should be conducted on the ways in which vocational education might be more successful in promoting sex equity. Organized labor has had to examine the issue of sex equity in its own training programs, and has learned that despite efforts to promote affirmative action, many women are currently not interested in pursuing work in certain nontraditional trades. Some women lack the dedication needed to attain the journeyperson level. Perhaps, with the cooperation of the vocational education system, certain biases can be erased by working with students at a younger age.

Research should also address the particular needs of minority and inner-city youngsters in order to find ways to improve equal access to vocational education institutions. Unless our national employment statistics can be improved by targeting our efforts where they are most needed, our national productivity statistics will not be substantially altered.

In most cases, organized labor is ready and willing to cooperate with vocational educators at the local level. Local unions are very knowledgeable about local labor markets and about the skills and proficiencies that are most in demand. At the local level, union members are able to share their perceptions of what makes skilled workers or skilled craftspersons. To a certain extent, local union officers and members are available to offer students vocational guidance and to participate in career days; some are occasionally available for instructing.

While local cooperation between vocational education and organized labor should definitely be encouraged, the changes effected at the local level will not necessarily have an immediate impact on national statistics. Productivity is a matter of complex interrelationships among many variables, and changes must be broadly based within American society.

Conclusions

Obviously, the question of how to boost our lagging national productivity is too broad to answer in one paper. Our productivity problem can be treated strictly as an economic issue, as a sociological phenomenon, as a symptom of a psychological orientation toward work, or as an effect of technological advancement. It can be viewed as a variable in determining capital investment. A decline in productivity can even be regarded as a fictitious national malaise, a disease that does not really infect the American economy, although some writers would diagnose us as having it anyway.

Certainly we could all produce more. But do we want to generate work for work's sake? Do we want to produce more goods if there is no increase in demand for those goods? Do we want to produce more goods without simultaneously making a dedicated effort to maintain or improve the quality of the product? Will we, as employees, make an honest effort to become more productive when we know in advance that we will not be directly rewarded for our efforts?

Most Americans relate to the productivity "problem" ultimately in terms of their own jobs or life circumstances. To have jobs, to be dedicated to performing well in our jobs, and to pursue life, liberty, and happiness despite the fluctuations of the consumer price index--these are all basic goals that are generally shared by our citizens. Industry, labor, and education are all intrinsically connected to the way in which we can pursue these goals. With a clearly articulated national policy that takes technological changes into account, the institutions of industry, labor, and education should be better able to meet the complex problems that appear to threaten the productivity of our system.

Americans have always enjoyed a challenge. In the face of the rapidly changing society of the 1980s, we can hope that our national ingenuity will continue to be one of our most precious natural resources.

Organized Labor Education and Training

The passage that follows was excerpted and adapted from the following document:

> MacKenzie, John R. *Organized Labor Education and Training Programs*. Information Series no. 286. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984, pp. 11-41.

John R. MacKenzie (1984), associate professor of labor studies and director of the Labor Studies Center at the University of the District of Columbia, has been active in labor relations and many facets of labor education. He provides an excellent picture of organized labor education and training programs.

The first part of MacKenzie's discussion deals with labor education and training in trade unions. He describes the role of unions in providing apprenticeship training and labor education and also examines the workings of training trust funds. The second part provides a description of current tuition-aid programs and a discussion of barriers to worker participation as well as strategies to improve participation. The last part deals with the role of community colleges in providing labor education and training.

Before beginning MacKenzie's discussion, a few definitions are in order. Trade union organizations have, through the years, developed or engaged in the following four types of training programs:

- *Apprenticeship training* is the training of skilled workers.
- *Labor education* is the training of trade union officers and members to carry out their institutional and professional functions.
- *Vocational education* is primarily shorter skill-building programs to train or upgrade workers in craft and other unions.
- *Self-improvement education* may include such areas as citizenship education, high school equivalency classes, language or math skill improvement, or cultural programs.

Of course, there is overlap between the four general categories. Self-improvement training in math can be found in vocational and apprenticeship programs and occasionally in labor education. Similarly, there are aspects of vocational training in apprenticeship training and more particularly in journeyworkers' upgrading and training. Nonetheless, each category is sufficiently distinct to describe it as a separate group of programs.

Apprenticeship Training

Apprenticeship training today is a system that develops skilled workers through a supervised and rationalized process of on-the-job training and classroom instruction. The apprentice on-the-job training requirement may be up to 2,000 hours per year of supervised work in which the apprentice works with journeyworkers individually or in a small group. The on-the-job training is usually supplemented by 144 hours of classroom training. The term of apprenticeship ranges from 1 to 10 years depending on the craft or industry, although most trades average 3 to 4 years. The training begins at a fundamental level and becomes more difficult as the apprentice progresses through the program.

Some well-known unions with the longest histories of apprenticeship are in highly organized industries such as the printing trades, railroads, building and construction trades, machine tool, and glass-making. In many industries, the firm controls the apprenticeship training program and facilities, with the unions playing a more secondary role. Although a joint apprenticeship committee, composed of equal representation from the employer and the union, administers apprenticeship training in unionized industries, the union frequently exercises primary control over it. However, 85 percent of apprenticeship programs registered with the Department of Labor are sponsored solely by employers, that is, there is no union participation.

Apprentice training in the unionized trades has historically been the training of the young--those individuals 18-26 years old. Age exceptions were made for veterans and for organized nonunion craftsworkers who had some job experience but no formal apprentice training. However, most unions--especially those in the area of manufacturing--are lifting age restrictions. Training is open on a competitive basis to all who wish to apply who meet the craft's basic criteria and who are able to pass the objective tests. In some years, the number of apprentices selected is limited, based on union and management projections of future work for the particular craft.

After apprentices have completed their training, they are awarded journeyworkers certificates that will be accepted as proof of their skill level throughout the United States, Canada, and much of the rest of the world. In some crafts, such as plumbing, the apprentice must pass both a written test and skills demonstration prior to being accepted as a journeyworker. The apprenticeship training helps ensure that there will be a skilled work force.

When the apprentice programs are controlled by industry, they are usually handled by management. Large firms may have their own apprenticeship training programs. Alternately, they may provide an educational fringe benefit for their employees that permits individuals to become skilled craftworkers on their own time through enrollment in a community college or private program. Sometimes unions become involved in negotiating these education benefits. For instance, the United Auto Workers (UAW) has negotiated with General Motors Corporation a $500 per year fringe benefit for UAW members enrolled in a certified craft program (Levine and Hutton 1980). This type of cooperation between union and management upgrades the skills of the work force and results in improved productivity. It also improves the financial positions and job possibilities of trained workers.

The federal government, through its Bureau of Apprenticeship and Training in the U.S. Department of Labor, works with management and labor to establish apprenticeship training programs. The Bureau has field staff in various regions of the country to work with the apprenticeship training programs and assist in establishing standards. The standards ensure that once apprentices complete their training, they can realistically expect to be adequately trained journeyworkers in the field of their choice. The standards are published by the U.S. Department of Labor. (For examples of national apprenticeship and training standards, see U.S. Department of Labor 1982a, 1982b, and 1982c.)

After the Revolutionary War, the wages of skilled workers in the United States were 75 to 100 percent higher than those of unskilled workers (Pressen 1976). Today there is a similar range between the wages of the skilled and those of the unskilled. During the training period, the starting salary for apprentices is often less than they could make in an unskilled or semiskilled occupation, but as the skill level of the apprentice improves, so does the pay.

Like other forms of education and training, apprenticeship training is going through a variety of changes. It is expanding into many fields such as medical technology and computer-related occupations. As science and technology expand, so does the knowledge required of the worker in the field. Occupational groups that have been considered semiskilled and whose workers have traditionally been trained through on-the-job training are finding that job expansion now requires more formal and sophisticated training. Frequently, the training becomes so complex that it requires an apprenticeship.

Training Trust Funds

Funding has always been a critical issue in providing training to prepare the work force and update skills. There have never been sufficient funds to do all the training that needs to be done. This funding shortage will be even more apparent in the future, when more training than ever will be needed. Therefore, more attention must be focused on alternative ways of obtaining funds for union-affiliated training programs.

Through the collective bargaining process, labor and management have established different kinds of funds for education and training. The most prominent types today are tuition-aid funds and training trust funds. Because of their importance in supporting apprenticeship training, training trust funds are discussed here. Tuition-aid funds are treated in another section.

The joint training trust funds provide support for educational programs designed for specific industries. Such funds have existed at the local level for many years. The local training trust funds are used largely to support apprenticeship training and journeyworker upgrading programs. Also, labor and management have agreed to establish national training trust funds in such industries as sheet metal, plumbing, painting and decorating, insulation, and masonry. Unlike what occurs in the case of tuition-aid funds, workers aggressively pursue learning opportunities provided through national joint labor-management training trust funds. No research can be found on why workers' behavior is different in this case, but the following factors may contribute to the high level of participation in training trust fund programs:

- The purpose for which the funds were established
- The learning opportunities made available through the funds
- The strong involvement of both labor and management in the operation of the funds

Purposes of Training Trust Funds

Most of the joint training trust funds (both local and national) are established through joint labor union and management agreement to improve training, productivity, and employment. The funds' activities benefit both sides: Labor union members increase the possibility of maintaining full-time employment, and employers can successfully compete for a broader range of contracts because their workers possess up-to-date knowledge and skills.

Money from the national training funds is frequently used for such activities as conducting research, developing training and curriculum materials (e.g., apprentice and journeyworker workbooks, instructors' guides, transparencies, films), and providing training programs for apprentice coordinators, union members, and joint apprenticeship committee instructors of apprentices and journeyworkers. These activities may be conducted by the administrative staff hired by the funds' trustees or may be handled through cooperative contractual agreement with either public or private agencies.

Two of the national training funds, for example, have maintained a longstanding contractual relationship with major universities. The National Training Fund for the Sheet Metal and Air Conditioning Industry has contracted with the National Center for Research in Vocational Education at The Ohio State University continuously since 1973 for a variety of services. These services have included conducting several industry studies, collecting and cataloging relevant sheet metal industry materials and resources, and training nearly 2,000 instructors and 800 local members of joint apprenticeship and training committees throughout the United States and parts of Canada. These activities are available only to those designated by the funds' trustees. The trustees for this fund come from the following associations: the Sheet Metal Workers' International Association (SMWIA) and the Sheet Metal and Air Conditioning Contractors' National Association (SMACCNA).

The National Center for Research in Vocational Education has also worked with the national joint labor-management training trust fund for the painting, decorating, and drywall industry, and the national joint labor-management trust fund for the insulation and asbestos industry to develop apprentice workbooks, instructors' manuals, and visual aids, and to conduct instructor training programs targeted specifically to the needs of these two industries.

Purdue University has worked contractually with the United Association (UA) of Journeymen and Apprentices of the Plumbing and Pipefitting Industry to train instructors of apprentices, administrators, and others designated by the UA. This program has operated on a continuing basis since 1953--the longest of any in existence.

Labor Education and Labor Studies

Labor Education

Labor education, or workers' education as it is more commonly called outside the United States, has been considered a part of the general field of adult education. It covers a number of areas: workers' institutions; the union and its function; the worker's responsibilities to the institution, the state, the nation, and the world; and the problems that arise in the workplace and with the laws and customs that govern it.

Labor education may be distinguished from the general field of adult education. As Rogin and Rachlin (1968) point out, "Labor education is distinguished from general adult education because it attempts to reach workers through their union by integrating them in education because they are unionists and workers rather than individuals" (p. 11). This ability to reach large numbers of workers, especially blue-collar workers, has been accomplished only by going through the worker's institution, the trade union. University labor education centers reach the workers with their labor education programs in the same way. However, the potential outside provider of labor education must be acceptable to the trade union as well as have the ability to put on the desired programs.

The word "acceptable" may have many connotations, but based on this author's years of experience, it does not mean that the postsecondary institutional provider of education and training must agree with the union's policies or actions. Rather, it means that the union's institutional integrity must be respected and its policies noted if they are relevant to the subject matter being taught; that the union's primary functions, specifically collective bargaining, are understood; and that the instructors can relate to adult union members, can teach adults, and are knowledgeable in their subject matter.

Universities have been able to work with unions within their states by establishing labor advisory boards that counsel them and their labor center. These boards may be composed of union representatives alone, or they may be joint union and university efforts and may include a representative from the AFL-CIO Education Department as a member. The union representatives on the advisory boards are usually the top-ranking collective bargaining officials in the state or region. The committee is usually chaired by the president of the state AFL-CIO (or local central body as in the case of a community college) who, in theory, represents the entire union movement. This, however, does not preclude non-AFL-CIO union leaders from serving on the advisory board. The university labor center must be sure it attempts to serve all major union groups within the state. Therefore, non-AFL-CIO union representatives, such as representatives of the National Education Association (NEA), the Teamsters, the United Mine Workers, or state or local public employee association, are welcome.

The advisory board is normally attached to the university, and the president may appoint its members for a term of 2-3 years. Replacements may be made on the basis of position, influence, or occasional rotation.

The advisory boards usually meet once or twice a year and may or may not have an executive committee that meets more often. The function of these boards may vary, but they usually provide advice and counsel to the labor center and the university on the educational needs of workers in their states. In addition, they may assist with the setting of educational priorities for the labor center and with obtaining support for its programs. The University and College Labor Education Association, the national professional association for university and college labor education, suggests minimum standards necessary for the establishment of an acceptable university or college program. The standards include the following:

- The postsecondary institution must have a representative labor advisory committee that is established in consultation with the union organizations themselves.

- The labor education program must be an identifiable unit within the university with a sufficient budget to carry out its programs, including travel, and it must have sufficient authority and administrative flexibility to plan and develop its budget and programs and to hire qualified teaching personnel who can relate to adult workers.

- The programs should be chaired by a recognized labor education professional.

Rogin (1970) defines labor education as follows:

> Labor education is the attempt to meet workers' educational needs as they arise from the participation in unions. It is education directed toward action. Its programs are intended to enable workers to function more effectively as unionists, to help them to understand society and fulfill their obligations as citizens, and promote individual development. It does not include training in job skills for the labor market, commonly known as vocational education (pp. 301-302).

This definition will generally hold today if a somewhat greater stress is placed on international understanding. As noted previously, trade unions today are buffeted by new problems and new issues, such as foreign trade and international market competition. These issues will be topics of labor education in the future.

Labor Studies Credit and Degree Programs

What has been omitted from the above definition, other than new directions in the field of labor education, is the addition of labor studies. Labor studies is the generally accepted university and college term that distinguishes credit and degree programs from labor education programs. There were no known degree programs in existence in 1965-66, the base years of the last definitive study (Rogin and Rachlin 1968). This means that this new addition to the education and training functions of trade unions has not been integrated into the larger picture. There has not been a definitive study of credit and degree programs in the new field, nor has there been a study that has reviewed both labor education and labor studies together. We do not know the impact of labor studies on labor education. Have labor studies, for instance, diminished or increased labor education or have they added more depth or new knowledge to the labor education programs? Do labor studies degree programs have certain similarities and differences, and why? Most of this is not known from a national perspective, so the following discussion of labor studies is based, in part, on the author's knowledge and may be subject to his bias.

Labor studies have developed out of the merging of several needs within a short time span. The growth of credit and degree programs is based, in part, on the needs of the workers as defined by their organization, trade union, industry, and work force mix within the state and in part by the way in which the universities, colleges, and their faculties understood those needs.

The first two degree programs, at the University of Massachusetts-Amherst and at Rutgers, the State University of New Jersey, began at approximately the same time in 1967 as professional degree programs at the master's level. The University of Massachusetts degree was in labor studies and the Rutgers degree was in education, reflecting its location in the College of Education. Both degrees were generally aimed at training professionals for trade unions; for state, local, and federal government positions; and, to a lesser degree, for private industry. Both of these programs began at about the same time that the major public organizational drives and state laws were passed to permit collective bargaining by state and local governmental employees. These had been preceded by President John F. Kennedy's Executive Order 10988, issued in 1962, that permitted various forms of federal employee union recognition together with a very limited scope of "bargaining."

This opened the way for trained personnel in trade unions and in governmental agencies at all levels who could provide assistance in the various new jobs or expanded jobs that were developed in labor relations, such as those created by the establishment of state and local public employee relations boards (PERBs). These new boards usually handled problems of union elections, recognition, mediation, fact finding, arbitration, and general issues on the scope of bargaining. Trained personnel were required by the union as well as in public employment, as neither group had extensive collective bargaining experience. Therefore, the hiring of university-trained students who were often older, who had been in the work force previously, and who were (more often than not) prounion or procollective bargaining was very beneficial to certain unions and public agencies.

A second major factor that affected the growth of labor studies was labor education itself. Labor education, as it originally developed, consisted of short-term courses aimed at meeting the specific needs of trade union organizations and their officers and members. Needs were met on an ad hoc basis, such as training new stewards at one location, training officers in parliamentary procedures at another, or developing a 2-day conference on a single topic, such as understanding the impact of economics on collective bargaining. These programs gradually grew until many unionists had completed the short courses sponsored by their unions or sponsored jointly with the university labor education centers. These individuals then wanted and needed more sophisticated educational offerings, tying their educational program more closely to the liberal and social science disciplines.

University labor education centers began to develop long-term programs, thanks to the efforts of their advisory committees and their own professional labor educators. Although there was some uniformity, there were many differences between the course content of the short-term courses and that of the long-term university programs. Some universities, such as The Ohio State University, pursued a "go-it-alone" philosophy and developed their own long-term programs. Others, such as Rutgers, Pennsylvania State University, and West Virginia University, joined forces under the Union Leadership Academy (ULA) and jointly developed curriculum for a long-term program. This program began in the early 1960s and continues today.

ULA developed a series of short courses that could be taken individually or as a series, with a special certificate offered for the latter. These included such labor and liberal arts courses as Labor and the Economic System, Labor and the Political System, Labor and the Social System, Labor History, Labor Law, Psychology of Union Leadership, and Current and Future Problems. These courses often were preceded by short units on how to study and use the dictionary and were enriched by a daylong winter conference and a 2- to 3-day spring conference that also served as graduation exercises for those who had completed the entire course offering. These conferences were occasionally held in Washington, D.C.

A third factor influencing the growth of labor studies was the increase in the educational level of the work force. Workers had been completing high school with greater regularity, and the educational level had reached 12 years in many areas of the country. Workers were brought to the state university door, and they, like other societal groups, began to open it for themselves.

Workers also began to change their past perception of education. They began to return to school in order to take courses related to their job or their union positions. Often they discovered educational opportunities that would allow them to move into new and nonrelated fields of work and into solid middle-class jobs.

The last major factor was the increase in the availability of credit education for the workers. Prior to 1960, very little credit education was available due to three factors. The first factor was the cost of education, particularly private education, which was usually too expensive for the vast majority of workers. The second factor was the location of the public colleges and the state university in particular. For political reasons, colleges and universities were often located in the middle of the state or, in the case of the land grant colleges, in the farm belt away from the population centers. Finally, universities and colleges did not cater to adults, but rather to the 18- to 22-year old residential student.

During the 1960s, the community college movement took hold and 2-year institutions began springing up in major cities and counties. Many universities began to establish branch campuses throughout the state to serve as feeders for central universities and to provide for the needs of more citizens. A third supplier, the teachers college, had also been going through changes. In the past, these post-secondary institutions had been more or less restricted to the education and training of public school teachers and administrators. They now broadened their bases by offering bachelor's degrees in areas other than education and degrees at the master's level. These institutions were closer to the population centers, spread out within the state, and therefore, closer to workers. These changes made education more available to workers. They could work, return home, clean up, and take a class or two at night or on weekends. Thus the community college movement opened the door to higher education for many workers.

For many universities, the student in labor education and the student in labor studies have been distinct individuals, but today, more than ever before, the labor education student is becoming the academic student at the community college, the 4-year college, and the university. Labor education, in part, becomes a feeder for labor studies and other academic programs. The academic labor studies students and the noncredit labor education students are in large measure distinct groups, but they may share an interest in the trade union and its many functions. In labor studies, the student will study the union as an institution from the many perspectives of the social sciences and will attempt to integrate the knowledge provided by each into the whole. The student will link the institution of the trade union with a broader understanding of society. Thus, the student will also become involved in academic research and will study the research of others.

Labor Education Programs

The major concern of the labor education student, who is a union member, officer, or appointed staff member, is the institution and how it functions. This individual must be concerned with the job, the union, the problems faced by a union officer or staff member, and the problems the union and the industry face, as well as the laws that govern both. The universities and colleges have developed labor education courses based on a half century of experience and on labor education research supplied both by the universities and by the trade unions. Labor education, as Gray (1966) points out, has divided itself into the following five general categories:

- Ideological--based on commitment to social change
- Institutional--designed to build organizational loyalty and participation
- Professional--preparing individuals for leadership
- Cultural--enhancing an individual's enjoyment of life
- Remedial--raising the level of the educationally disadvantaged

All of these categories have been a part of labor education, but the two that are now the most characteristic of labor education are the institutional and the professional categories. The trade union is more concerned with the former because once groups of workers are organized, they must become unionized, which translates into members' understanding of their union, its functions, the laws governing it, the worker's obligations to the union as distinct from obligations to the employer, and the building of a loyalty to that union.

In the professional category, the union plays the major role in training trade union leaders through programs of labor education or labor studies. Although the university would feel comfortable in explaining the union, its functions, and the worker's general obligations, building loyalty to a union and its policies or to individual leaders would not normally be done by a university. However, the training of trade union officers at all levels to carry out their union functions would be well within the purview of the university. In fact, with the increased complexity of the tasks performed by union leaders, the university may be better able to provide this function due to its academic resources. However, the occasional bias against the union on the part of academic institutions has inhibited research about the union. When studies have been done, the lack of a system to deliver research results to workers and their leaders has caused new information to remain on the shelves.

Labor education essentially uses program delivery models typical of adult education--the short course, conference, seminar, and workshop. The programs are first jointly planned with the university and the trade union organization (or by trade union national unions with their locals), packaged, and brought to where the workers live and work. They are scheduled at a time when the workers are off work so they do not lose wages in order to attend the programs. The two most common program formats are the short course and the conference.

The short course is a program that usually runs 1 night a week, 2-3 hours a night for 5-10 weeks. If the workers live near the university or college labor education center, the program may be held on campus. Many trade union locals have large conference or meeting rooms where programs may be offered.

If the short course is taught off campus, the university labor educators take the program to the workers' home community and put it on in a local college, high school, government building, courthouse, utility, or union classroom. If university labor educators, whether faculty or professional, are to teach, they will travel each week to the class location. If labor educators do not teach, they will usually open the class, register the students, pass out class workbooks or kits, and introduce the instructor, who may be from the local community, or from the university.

In states with university programs, the state AFL-CIO central body may cosponsor a weeklong summer school at the university that is open to all AFL-CIO affiliates within the state. These schools may involve from 30 participants to well over 100. The topics may be newly selected each year or the school may have basic and advanced sections of standard topics as well as new topics. These programs may make use of leadership manuals on political, legislative, or economic matters that are produced each year by the national AFL-CIO. In addition, the state AFL-CIO will treat a number of legislative topics, such as worker's compensation and unemployment insurance, or perhaps state tax or safety laws that concern unionists within the state. It is not uncommon to have state officials who are responsible for administering laws in specific areas to be present to explain them. In states without university labor programs, such as Virginia, the national AFL-CIO might supply assistance to state AFL-CIO officers who may hold 2- or 3-day weekend conferences. In addition, several state AFL-CIO organizations may band together to run a regional summer school.

An example of a successful summer school program is one sponsored jointly by the AFL-CIO and the Women's Subcommittee of the University and College Labor Education Association (UCLEA). These schools, designed for rank and file women union members, are held annually in 4 regions of the country and have been attended by over 400 women each year for the past 10-12 years.

Again, these programs depend to a major extent on the AFL-CIO Education Department for expertise, class materials, films, and assistance in obtaining instructors from the AFL-CIO and elsewhere. In addition to the state AFL-CIO, many national and international unions (the latter representing workers in Canada as well as the United States) often use university facilities for their own regional summer schools. These schools are often operated directly by the international union's education department, which may do the vast majority of the teaching. The international union may, on the other hand, turn over the summer school to the university labor educators to develop and teach, although the topical areas will be negotiated with the union.

Conferences usually range in length from 1 day to 2 weeks. Like the short course, the conference is put together through the joint planning proc[illegible]. In the case of the cosponsored short course, once the topic, fee, location, time, and date are determined, the university takes charge. For a conference, the joint planning process is much more complex. It may involve a local union and the international union's education director, subject matter specialists, and conference center or hotel conference and banquet personnel, along with the labor educator(s) in charge of development. The university may assume the entire responsibility of coordination, or it may divide it with the cosponsoring union organization. Negotiation about division of labor extends to program content, costs and fees, instructor conference materials, introduction of instructors, and the graduation ceremony. In some cases, the union will insist that its staff teach a certain topic because of the union's policy involvement or upcoming negotiations.

The conferences, whether university or union administered, will usually be of two types. The first type of conference is designed to disseminate general information that will assist participants in understanding new issues or changes in law, bargaining, foreign trade impacts, and so forth, so they can better carry out their functions. The second type of conference may be on a single topic or related topics that will provide needed expertise, in-depth knowledge, or problem-solving assistance. The latter tends to be designed for the current or potential union leadership.

The suppliers of labor education within the union vary considerably from union to union and often from region to region. Unions with their own staff of labor educators design programs on a regional basis to be held near the area with the greatest concentration of members. This is necessary to ensure attendance and to minimize the cost of transportation. The latter cost is the second highest cost to the union, with loss of work time being first. In making a determination of educational costs, the international union must consider the costs of transportation and the loss of work time by its members along with the cost of the program itself.

Because trade unions cannot use educational expenses as tax writeoffs, the cost of education to a trade union is often greater than it is for a business. This means that unions must weigh very carefully their costs and compare them to the priorities noted earlier. This may be one of the major reasons why so many of the small- and medium-size international unions are without full-time educational staffs of their own.

The educational function of unions is further hampered by the passage of complicated laws that affect union government and the workplace. These laws require union compliance with regulations such as the Employees Retirement Income Security Act (ERISA), although no funds are supplied to assist unions in educating their members about the law. When other major pieces of national legislation, such as the Equal Employment Opportunity Act, the Occupational Safety and Health Act (OSHA), and other legislation that affects collective bargaining and the workplace are considered, it is clear that, with the exception of a very few national unions, it will take local union officers and members several years to become familiar with the new legislation. This author estimates that it takes national trade unions from 3 to 5 years after major legislation is passed by Congress to disseminate information about the legislation to their members, who are often scattered in hundreds of small locals throughout the United States. This is unfortunate for the workers, many of whom are not fully aware of their rights and legal protections.

In the trade union, almost all levels of personnel will attempt to involve themselves in the educational process. The suppliers of information within the unions include the following:

- *AFL-CIO Department of Education.* This department supplies technical assistance to national and international unions, state and local central bodies, and university and college labor centers that work with trade unions. It also prepares educational materials such as films, provides speakers through its speakers bureau, teaches in union programs in areas of staff expertise, and develops testimony and testifies before Congress.

- *George Meany Center for Labor Studies.* This is a national trade union residential training center whose professional staff prepares programs that are open to all AFL-CIO affiliates, who may send their staff for training free of educational charges. The unions must pay the room and board charges.

  The Meany Center publishes an annual catalog of courses that run from 3 days to 2 weeks on topics such as staff training, collective bargaining, arbitration, labor law, use of computers, women's programs, economics, cost of health care, organizing, and so forth. In addition, international unions use center facilities (on a space-available basis) to hold their own conferences and training programs.

  The center also has a bachelor's degree in labor studies that union members throughout the United States may take through Antioch College. The center uses tutors, weekend conferences, and an atypical, but highly successful, delivery system. The center considers itself to be an adult education center. It operates Wednesday evening cultural programs for the local community and has special showings of art and sculpture.

  The center is also the base for the AFL-CIO's American Institute for Free Labor Development (AIFLD), which trains Latin American labor leaders who come to the United States for approximately 8-10 weeks.

- *International unions.* These organizations vary in their educational activity, with about 25 percent of them having some form of ongoing labor education programming. International unions such as the United Auto Workers, Steel Workers, Machinists, United Food and Commercial Workers, and Seafarers have their own residential centers for staff training.

Tuition-Aid Programs: A Negotiated Benefit for Workers' Education

The financing of education and training programs that benefit members of labor unions takes place in a number of diverse ways. Unions generally support the education and training of their members through one or more of the following methods:

- They support legislation at the local, state, and federal levels that is designed to provide equitable, affordable educational opportunities for American adults.

- They subsidize members directly through union financial loan and scholarship programs.

- They contract directly with educational institutions to provide specific courses for their members.

- They develop internal education and training programs through their education departments.

- They use collective bargaining to negotiate contracts that provide educational benefits to their members. (Smith 1982)

Of the five methods listed, the negotiated benefit is the one that provides the greatest number of educational opportunities for union members. Unfortunately, not much is known about negotiated education and training benefits since the topic has not been studied in any systematic, detailed manner. According to the available research, however, there are three major forms of negotiated education benefits:

- Apprenticeship programs
- On-the-job training plans
- Tuition-aid plans (ibid.)

Since tuition-aid plans provide workers with a means of enrolling in courses at educational institutions, they are of particular interest to vocational and adult educators.

Background

Although tuition-aid programs have existed since the early 1900s, only recently have these programs become prevalent enough to attract serious attention. During 1976-80, the National Institute for Work and Learning (NIWL) conducted a thorough study of tuition-aid programs to determine the extent of utilization of the programs and to identify barriers that tend to reduce workers' use of this benefit. According to the study, which was sponsored by the National Institute of Education, in 1977 there were an estimated 198 major contracts with tuition-aid benefits covering approximately 1.6-2.0 million workers. However, the utilization rate of the plans was low, particularly among blue-collar workers. Although there were plans in all industrial sectors, they were distributed unevenly. Of the plans examined, 54 percent were in manufacturing, 19 percent in services, 18 percent in transportation and utilities, and 9 percent in construction. This variation can be explained in part by the rate of unionization of different industries (Charner et al. 1978; Smith 1982).

Types of Tuition-Aid Plans

According to NIWL researchers, a negotiated tuition-aid plan is "any formal plan in which a company has agreed, within the terms of a company-union contract, to give employees financial aid to pursue courses offered on or off company and union premises" (Charner et al. 1978, p. 27). The following four types of negotiated educational benefits were identified:

- Tuition advancement or reimbursement plans
- Educational leave and leave-of-absence plans
- Training fund plans
- Scholarship and educational loan plans

Although normally only one of the four types of tuition-aid plans appeared in a negotiated agreement, in a number of instances two or more types were found (ibid.). These four types are described in more detail below.

Tuition Advancement or Reimbursement Plans

Tuition advancement or reimbursement plans pay all or part of the tuition expenses incurred by eligible individuals who enroll in education and training programs sponsored by an institution other than the employer. These plans may also cover other expenses, including registration fees, student activities, laboratory fees, graduation expenses, and books (Charner et al. 1978; Smith 1982).

Most plans are of the reimbursement type, in which the employee receives reimbursement from the employer only after satisfactory completion of the course. Of the plans examined in the NIWL study, 90 percent had tuition reimbursement as a benefit. Tuition advancement plans, in which the money is paid either to the employer or the educational provider prior to course enrollment, were much less common. Only 5 percent of the plans studied by the NIWL staff were of this type (ibid.).

According to Smith (1982), "The diversity one finds in negotiated tuition [advancement or reimbursement] plans certifies that no master strategy was involved in their evolution" (p. 7). A closer examination of the plans and their provisions proves Smith's point.

In most plans, worker eligibility is based on three criteria: job classification, accrued seniority, and satisfactory completion of the course or program. Although most plans permit only active employees to participate, a small number cover laid-off workers who were active at the time of plan enrollment. Only one-third of the plans have seniority requirements and those that do generally require 1 year (or less) of service with the company. Although most plans specify satisfactory course completion in the contract, there is usually no definition of "satisfactory" given; that is, a very small number of plans indicate that a specific grade must be obtained (Charner et al. 1978; Smith 1982).

These plans also frequently specify the types of institutions employees may attend and the kinds of courses they may study. Rather than naming specific institutions, plans use the language "approved" or "accredited institutions." Acceptable courses are listed and plans also state whether they must be taken for credit or be related to the individual's job or career. In some cases, plans specify that courses must be related to either a degree or a license (Charner et al. 1978; Smith 1982).

Released time from work is generally not granted to employees who participate in tuition-aid programs of this type. They may, however, be given the option of trading shifts or adjusting their work schedules to accommodate their course schedules. Since only 3 percent of the plans studied by NIWL granted time off for study, it is safe to say that tuition aid is assumed to be an "after-hours program" (Charner et al. 1978; Smith 1982).

Tuition advancement and reimbursement plans, although quite common, are diverse in their provisions. It is, therefore, difficult to generalize about them other than to say that they are a part of a large number of contracts and on paper represent a commitment of between $100 million and $1 billion to worker education opportunity (Smith 1980).

Educational Leave and Leave-of-Absence Plans

Educational leave and leave-of-absence plans permit the employee time off from work to pursue educational endeavors. Educational leave is granted to a worker for a specified period during working hours, whereas a leave of absence is granted for an extended period of time. Partial or full tuition payment may be a part of either of these plans. Although these plans are common benefits in Canada and western European countries, they are relatively rare in the United States. Only 16 percent of the plans studied by NIWL researchers had leave-of-absence or educational leave provisions (Charner et al. 1978; Smith 1982).

The eligibility criteria for these plans are similar to those of tuition reimbursement or advancement plans. Most plans specify that leave time should be devoted to study that is career- or job-related. Although most leave plans are for college-level work, some unions have been successful in negotiating broader educational options. One example of this is an agreement between the United Auto Workers and International Harvester that permits qualified workers to use the leave program to attend elementary or secondary school (Smith 1982).

Most leave-of-absence plans credit the employee with continuous service, an important aspect in terms of pension rights. Also, depending on seniority and job availability, many companies will reinstate workers at the job classification they held prior to taking leave (Charner et al. 1978).

Training Fund Plans

Training fund plans, also known as trust fund plans or education and training programs, are accumulated under agreements in which employees contribute fixed amounts of money per employee into a central fund to be used to finance education and training. These funds are usually administered by a board of trustees composed of both union and company officials. The trustees are responsible for program planning and development; they secure facilities, hire staff, and plan the curriculum. Frequently, a fund is used to establish a training institute or school. Twenty-eight percent of the plans studied by the NIWL had training fund plans, making them the second most frequently negotiated educational benefit (Charner et al. 1978; Smith 1982).

Most training funds have as their objectives to improve employee on-the-job performance, to retrain workers, and to reduce educational costs for employees (Charner et al. 1978; Smith 1982).

Scholarship and Educational Loan Programs

Scholarship and educational loan programs are the least used form of tuition-aid programs. Only 6 of the 79 major contracts studied by the NIWL staff had scholarship or loan provisions. Under scholarship programs, eligible employees are given funds to cover direct and related costs of education and training programs. Loan programs make money available to workers on a loan basis; they also include provisions for repaying the loan. Sometimes loan programs are a part of tuition reimbursement programs. In these cases, workers are loaned money for educational programs, but the loan is waived if courses are completed satisfactorily. Loan and scholarship programs are not normally as restrictive as the other plans with respect to courses of study and satisfactory completion, although scholarship programs emphasize the need for program completion (Charner et al. 1978; Smith 1982).

Barriers to Participation

Tuition-aid plans--whether negotiated or not--are considered a standard benefit; however, only 4 or 5 percent of workers take advantage of them. This participation rate seems especially low since the NIWL study established that management, unions, and workers concur that these plans have very important functions. They agree that these plans contribute to improved job performance, personnel development, and job satisfaction (Barton 1982). It is interesting to note that tuition-aid programs that are not part of negotiated contracts are also not extensively utilized by eligible employees.

According to Smith (1982), low participation rates have nothing to do with low regard for education on the part of workers, since a number of recent studies have concluded that unionized workers place a high value on education. He suggests, rather, that underutilization of the plans is a result of the following factors:

- Lack of confidence about ability to succeed in educational settings
- Lack of information about available benefits
- Lack of information about educational programs
- Lack of encouragement
- Lack of flexible work schedules

Using information obtained from workers, unions, and management, the NIWL staff identified the following three areas that needed attention in order to improve worker participation rates:

- *Information delivery*. Since companies and unions do very little to publicize tuition-aid plans, large groups of workers do not know about their eligibility. Also, workers have inadequate information about educational programs. At a minimum, employees should have information about the nature of tuition-aid plans, available educational programs, and qualified education and training institutions.

- *Counseling*. Inadequate counseling was another barrier to utilization of tuition-aid programs. Both career and personal counseling need to be available. Career counseling can assist workers with career planning as well as provide information about appropriate educational offerings. Personal counseling can help them deal with the stresses that may result from returning to school. These include such areas as the feeling of inadequacy and the need to readjust to home and work responsibilities.

- *Improved linkages between the work site and educational providers*. Improved linkages can facilitate the delivery of educational and counseling services. Educators need to become knowledgeable about specific provisions of tuition-aid programs in order to tailor programs for eligible workers. Employers can assist in this effort by making information about tuition assistance programs readily available. They can also provide on-site space for the delivery of counseling and educational programs (Charner et al. 1978).

Conclusions

Tuition-aid programs are an important negotiated benefit for many union members. If more use is to be made of these plans, barriers to worker participation must be reduced. Increased information, available counseling, and improved linkages will help in this process. Other changes that would also enhance worker participation include the following:

- Expanding the notion of "job-related" courses and programs

- Expanding the availability of prepayment plans

- Developing more flexible work schedules

- Providing incentives for workers to participate in tuition-aid programs

- Devoting special attention to the needs of women and minorities (ibid., p. 83)

Making Tuition Aid Work for You: An Action Guide for Managers, Labor Officials, Workers and Educators (Rogers and Shore 1980) is a useful publication for those interested in developing or improving tuition-aid programs. It addresses concerns of different parties through a question-and-answer format and then discusses plans and their implementation. It also suggests ways to overcome barriers to participation.

The Community College Role in Labor Education and Training Programs

The development of community colleges in the United States in the 1960s dramatically expanded educational opportunity for workers, especially those who were union members. Community colleges that were established in major U.S. counties and cities brought low-cost education close to workers' homes and workplaces. The community college's often nontraditional educational offerings and its outreach within the community brought together the colleges and the union organizations in the geographic area.

Initially, it was often difficult for community colleges to work with unions in the field of labor education. The first problem was that the community colleges did not have labor education specialists who knew the union as an institution and, therefore, how to work constructively with it. Secondly, they often did not have the necessary disciplines to provide faculty for labor education programs. Finally, the community colleges that were established in major industrial states found the "turf" already staked out by the entrenched state university labor education program--with the full support of the trade unions.

With the field of labor education partially closed, the community colleges, encouraged by trade unions, turned their attention to the development of labor studies associate's degree programs. These programs provided a variety of educational packages, but most included introductory courses in such areas as labor and industrial relations, labor law, labor relations and bargaining, union communications, parliamentary procedure, union administration and contract administration, union history, and unions and the community.

The development of the courses and degrees by the community colleges reflected the union and work force mix of their region or the state (e.g., industrial, mining, construction, transportation, or government center or installation). The degree programs had two difficulties--the quality of instruction available and the lack of texts and supporting library materials in the subject areas. This situation has generally improved due to unions' support of college budget increases and due to the growing experience of colleges in working with unions.

As one example, the AFL-CIO George Meany Center for Labor Studies, with the assistance of grant funds, commissioned seven texts that are being written by labor educators and that will be published by the Bureau of National Affairs (BNA). The project also developed pilot programs that brought together building and construction trade unions and community colleges to provide academic credit awards for apprenticeship training completed. Through this project, the Meany Center worked with four community colleges to develop associate's degrees that would consist of approximately one-third labor studies, one-third additional academic requirements, and one-third apprentice training as provided by the unions and the construction contractors. Probably for the first time at the community colleges, this project combined the labor studies degree with academic credit for apprenticeship.

Previously, technically oriented community colleges had developed credit awards for apprenticeship education programs and other forms of skill training based on the number of years of apprenticeship completed, the type of apprenticeship, the skill level required, and the classroom content. The credits varied by union organization, with those unions in the mechanical trades--electricians, plumbers, pipe fitters, sheet metal workers, and operating engineers--involving some of the highest amounts of credit, since programs for these trades tend to require more math and science. Community colleges continuously evaluate the apprenticeship programs that they have developed jointly with unions. Despite the fact that apprenticeship programs are national in scope, however, the credit offered by community colleges has often been ad hoc in nature and has differed from institution to institution. The Meany Center project may have resulted in more uniform criteria for credit awards for apprenticeship programs in the construction trades.

Relationships between the building and construction trade unions, their contractors, and community colleges that have developed as a result of the Meany Center project will continue to grow. Because the construction industry was particularly hard hit by recent economic conditions, there may be a temporary decline in the number of apprentices trained. However, it would seem that now would be the time for journeyworkers who have completed their apprenticeship to further their education; unions and contractors in the construction industry must continually upgrade the skills of their present journeyworkers as science and technology continue to advance.

Whether or not community colleges are playing a role in the continuing education of the construction craftworker is not known, as no major study has delineated the current relationship between the community colleges and the construction trade unions. Yet, the interest among certain AFL-CIO international unions such as the International Brotherhood of Electrical Workers (IBEW) and the International Union of Operating Engineers (IUOE) will continue to assist their locals in building continuing relationships with the colleges.

The community college is in a position to assist in the process of training and educating workers and their union leaders because of their locations scattered throughout the state, their flexibility in programming to meet community needs, and their offerings of both academic and vocational curricula. These factors should permit the union members to begin or continue their education near home and to maintain their livelihood at the same time. They should also permit union members to find courses that will help them better understand their union, its functions, the laws that govern it and the workplace, and the political and legislative issues facing it, as well as prepare them to play a more constructive role in their organization and their communities.

Because most community colleges provide technical training, they are in a position to develop apprenticeship programs similar to those developed through the Meany Center project as well as to provide other types of vocational training that will benefit workers. Education of the work force is one area where unions and management can cooperate to receive mutual benefits. The unions want to assist workers by providing a means to upgrade skills and increase job security and eligibility for promotion. Employers want to upgrade the work force to improve productivity. Community colleges can assist both unions and employers with their concerns. For example, the United Auto Workers (UAW) has negotiated an educational fringe benefit for its members. Under this agreement General Motors allows each of its UAW employees $1,000 a year for education and training. Such programs have been a major force in certain areas of the country, particularly for community colleges.

Summary

Kenneth Edwards, in the first section of this chapter, provided an overview of organized labor's contributions to American productivity. He also noted that to understand industrial productivity, it is necessary to understand not only the operation of particular industries, but also occupational groupings with those industries. In his discussion of productivity and employment he made the point that improvements in productivity do not necessarily enhance employment opportunities, and that more education, especially *inappropriate* education, does not necessarily lead to job opportunities.

The impact of technology on employment is important, Edwards noted, and organized labor is taking steps to address the consequent problems. Knowledge obsolescence also needs to be confronted--by better occupational planning. He also stressed the need for a national technological policy including accurate assessments of our human resources--both our current capabilities and our education, training, and retraining needs.

At the end of his discussion he called for increased research and development in vocational education and noted a number of "fundamental" questions that need to be studied. Among these were:

1. How and why do people learn?
2. How can learning be made more efficient?
3. Are the competencies being used as criteria in today's schools the right ones? Are they adequate for today's *workplace?*
4. Is vocational education adequately addressing the sex equity problem?
5. Do minority groups have adequate access to vocational education?

In the second section of this chapter, Dr. MacKenzie briefly discussed the history and nature of apprenticeship training, stressing its changing nature, linked closely to scientific and technological advances that require workers to continually increase their knowledge bases. Dr. MacKenzie also discussed the nature and status of training trust funds, pointing out that funding for training will likely be more limited in the future--when more training than ever will be needed. As he noted, "Therefore, more attention must be focused on alternative ways of obtaining funds for union-affiliated training programs."

In his discussion of the state of labor education and labor studies, he noted an important distinction between business enterprises and trade unions--trade unions cannot use educational expenses as tax write-offs. The result, of course, is that unions must carefully weigh training costs in relation to priorities.

Dr. MacKenzie also provided an overview of tuition-aid programs. He noted that three areas needed attention in terms of approving worker participation rates--information delivery, counseling, and improved linkages between the work site and educational providers.

Finally, the author discussed the role of the community college in labor education and training programs, pointing out that there are many opportunities for cooperative activities between community colleges and organized labor that will result in mutual benefits.

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Chapter 3
The Two-Year College and Economic Development

The passage that follows is excerpted and adapted from the following document:

> Long, James P.; Gordon, Robert A.; Spence, Charles; and Mohr, Gary. *Economic Development and the Community College*. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984, pp. 1-2.

In this passage, Long et al. provide a working definition of economic development that can serve as a basis for discussing economic development strategies.

Definition of Economic Development

Economic development is the systematic, organized promotion of economic growth and business activity of all kinds. It can involve retail business, manufacturing, agriculture, mining, financial industries, education, and all types of services. Through public relations, more effective use of current resources, or the introduction of additional resources, economic development seeks to encourage new business activity that results in net dollar income, or the infusion of money into the community.

At the national level, this may mean having a foreign automobile manufacturer build a plant in this country, whereas for a state it may be winning the competition among other states for a new electronics plant. Local development efforts may convince a state to build its new hospital in a certain town, or may aid in the establishment of new small businesses. In all of these examples the goal is identical--to bring in new dollars. Business activity that does not bring in new dollars, although quite important, is usually not promoted by economic developers.

The results of increased business activity, whether the effects of national, state, or local efforts, are wide ranging. Most obvious are such benefits as more jobs, greater income from taxes, and an influx of workers who become consumers in the local economy. Another important result is more support, financial or otherwise, for schools, community services, recreational facilities, and cultural and sporting events. Hospitals and medical services may improve, the availability and quality of housing will increase, and in general, the community will become a more attractive place in which to work and live.

NOTE: Please see *Case Studies of Programs Serving Adults* for examples of actual industry/labor linkage activities.

The passage that follows is excerpted and adapted from the following document:

> Warmbrod, Catharine P., and Faddis, Constance R. *Retraining and Upgrading Workers: A Guide for Postsecondary Educators*. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984, pp. 11-14.

Warmbrod and Faddis discuss the importance of a human resource emphasis in economic development activities and provide a rationale for the involvement of the 2-year college in these kinds of activities. They offer an excellent overview of the kinds of economic development activities that the 2-year institution might engage in.

Investing in Human Resources

The concept of economic development is not new, nor is the involvement of community colleges in economic development. What is new is the importance these activities take on in a decade of economic recession, declining productivity, imminent and massive changes in technology, vigorous foreign market competition, and devastating unemployment rates--with the prospect that many companies may go bankrupt and many of the unemployed will not return to the type of jobs they left. Training can be an essential part of the solution to the problems that American companies and adult workers are facing.

Two major issues are crucial to the upgrading and retraining of adult workers in this country: (1) how human resources relate to economic development, and (2) how 2-year colleges perform the training functions related to economic development. A basic understanding of economic development concepts, policies, and practices is vital for training agencies in making intelligent, informed decisions about how best to approach and serve this country's training needs.

It should be noted that no attempt is made here to argue for or against any of the issues; that has been done extensively in many other documents and forums (some of which are cited). This part offers an overview of what appear to be the consensus concepts and assumptions from which emanate the current trends in economic revitalization, productivity improvement, and human resource development.

A major dilemma that emerged in the late 1970s and has continued into the 1980s is the fact that America's productivity, as expressed in the gross national product, has declined (Bolino 1981). America's productivity has slumped in part because both the quantity and quality of its output in many businesses and industries have either slipped or failed to keep pace with foreign competition. America must be able to compete in a global marketplace. Other suspected causes, listed by Huddleston (1982, p. 10), include the following:

- The slowdown of growth in high-productivity industries
- Curtailment of expenditures on research and development
- Reduction of patent applications, thus depressing the opportunity for major technological advances
- Governmental regulations
- Governmental paperwork required of businesses
- Loss of the work ethic in the work force
- Errors in measurement data
- Changes in the quality of management
- Rises in energy costs

- Lack of business investment in technology and people

- Relatively low rates--and related problems--of low productivity service industries

- Increased numbers of less-experienced young workers, minority members, and women joining the work force

- Cyclical fluctuations in the economy

- Lack of government-backed incentives

Regardless of which factors or combinations of factors are the culprits, the productivity slump and its related problems have combined to compel industry, as well as public institutions, to develop strategies to try to counteract the situation.

Better technology is one part of the proposed solution to our country's lagging productivity. The other is investment in human resources. Human capital investment accounts for a larger share of productivity growth than does machine capital (Carnevale 1982). The economic success of such countries as Japan, Germany, and France is said to be in large part due to viewing human resources as a form of capital in which it makes sense to invest--and reinvest--in order to lower unemployment, increase productivity, and lower inflation (Striner 1982). In fact, training and retraining of human resources are now considered the prime management tool in those countries. And, based on the experiences of American companies such as General Motors, Delta Airlines, Hewlett Packard, IBM, Wells Fargo, Kodak, and 3M, commitment to policies of human capital investment do pay off in the United States (Huddleston 1982). Building and maintaining an up-to-date, skilled labor force are considered essential for a technology-oriented economy.

The two main approaches of investment in human resources that many American companies are taking involve (1) the use of new management practices, and (2) upgrading and retraining of employees. New management practices have largely been adapted from foreign companies' practices (e.g., quality circles, adapted from Japanese companies) or have evolved from organizational development (OD) theory. A partial list of the newer or recently reemphasized management practices includes--

- management by objectives (MBO),

- job redesign (including use of ergonomics),

- incentive systems (such as the Scanlon Plan),

- employee participation practices,

- flextime,

- lifelong employment with lifelong training,

- management development,

- improving the work environment,

- time management, and

- career development and planning.

Upgrading and retraining of workers have also been recognized as vital elements of human capital investment. Until recently, most American companies' human resources investment policies have focused on the maintenance rather than the development of human resources (Leach 1982). However, the increasing rate of technological change and our current unemployment problems not only demand the upgrading of employees and the retraining of displaced workers, but also require this to be done more frequently during the course of people's work lives. With the shifting demographics of the decade reducing the influx of youth into the labor market, American industry will have to rely even more heavily on adult workers in their prime employment years. American companies, labor organizations, legislators, and educators who ignore the importance of developing our human resources may do so at the peril of our nation's economic stability.

The passages that follow are excerpted and adapted from the following document:

> Long, James P.; Gordon, Robert H.; Spence, Charles; and Mohr, Gary. *Economic Development and the Community College*. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984, pp. 5-23.

In these passages Long et al. discuss the data they gathered from leading citizens representing various sectors of the economy. This data, generated from interviews with these leaders, serves as a source of guidelines for effective economic development efforts.

Perspective from Five Leaders Concerned with Economic Development

When 2-year colleges take an active role in local economic development efforts, it is vital that all parties involved agree on what the proper role of a community college should be.

This part examines the perceptions of five leading citizens who represent different sectors of the economy in a sample state (i.e., Iowa, whose economic development situation is typical of many states in the American heartland). It also provides a review of these leaders' opinions and offers a consensus opinion on what guidelines a community college should follow when becoming involved in local economic development efforts. The five individuals responding to five specific questions are as follows:

- The Honorable Terry E. Branstad, governor of Iowa
- Jack Bailey, director of the Iowa Development Commission
- Michael Crawford, chancellor, Eastern Iowa Community College District
- Richard Weeks, president, Quad City Development Group
- James von Gremp, director of training, Wal-Mart Corporation

Following are their answers to questions about economic development and community colleges.

1. ***At what point in the relocation or creation of a new industry should a community college become involved?***

Terry E. Branstad:

> I believe community colleges should become involved throughout the process. As I mentioned earlier, I believe we have an outstanding job-training system available through our community colleges, and it's one of Iowa's selling points. Obviously, we want to get our selling points on the table as quickly as possible, so I would like to see the community colleges involved as quickly as possible.

Jack Bailey:

A community college should become involved at the point where the greatest impact may be made on those making decisions to expand or locate a new business. That time will vary, given the situation, but, as a general rule, it will be early in the decision-making process.

Michael Crawford:

I think it's important to remember that the primary function of a community college is and has to be education, training, and information dissemination; and that secondly we should become involved in the economic development process. I do not think we can or should lose sight of that fact. We have a number of existing organizations whose primary function is economic development. We have local economic development groups, state economic development groups, local chambers of commerce, and so forth. We must always remember that it is their primary function to promote economic development. Therefore, I see the community college as doing whatever it can to assist in backing up and providing needed resources to these other organizations to enhance economic development of the area.

Essentially, I see the community college as a member of an economic development team. The captain of the team is the local chamber of commerce or the economic development group, and although we serve an important role in the economic development, we play as a member of that team. Therefore, I think the local community college should become involved in the relocation or creation of an industry at whatever point the chamber of commerce or economic development group feels it is most important. I think we have some very saleable services and I hope that we would be called in very early in the game to explain what programs and services our community college can provide to the new business or industry.

Dick Weeks:

The point of involvement for a community college will vary, depending on the type of development. My feeling is that the community college should be prepared to respond to requests from community and/or area development organizations and/or direct inquiries from employers.

Jim von Gremp:

In the beginning, to explain the various training programs available to new industry.

2. ***What typically might be the resistance to involving community colleges in economic development?***

Terry E. Branstad:

I hope there would be no resistance. If there is, it may be due to a lack of understanding about what community colleges can do. Since they can provide such a broad range of training and education services, I doubt that there would be resistance if people were aware of what community colleges can do.

Jack Bailey:

There are a few instances where blanket resistance to the involvement of a community college in the development of a project will occur. Occasionally, the involvement may be delayed because of concerns for confidentiality until a site has been selected.

There may also be instances where a business person may simply wish to avoid all ventures with a public body to protect decision-making integrity.

Michael Crawford:

I would guess that resistance to involving community colleges in economic development would come primarily from those individuals or organizations who really have not given us a chance to prove ourselves. They may not feel the community colleges really have anything to offer that will promote economic development, or that we may not know exactly how to promote economic development. There is also the possibility that some involved persons will believe that working with the community college may create more bureaucracy and red tape, or that the community college cannot maintain confidentiality that is so important in dealing with prospective new businesses and industries.

Again, I think those who have dealt with us in the past have found us to be a very valuable member of the economic development team--one that can be trusted, one that can be innovative and creative, and one that truly does have something to offer in the promotion of economic development.

Dick Weeks:

Traditionally, there has been a hesitancy on the part of the private sector to utilize educational institutions because of the perceived lack of flexibility in defining programs and curricula for today's world.

Jim von Gremp:

The resistance could be any conflict between a state economic development agency and the community college.

3. ***How could community colleges position themselves better for economic development?***

Terry E. Branstad:

I would suggest two things. First, community colleges should keep their "ears to the ground" so that they are aware of the training needs of current employers in their area, or of employers who might be considering coming to their area. The ability to provide the training that employers need can make all the difference in some cases. Second, it is important that community colleges keep their programs as up-to-date as possible. I recognize that this is difficult given the current financial constraints placed on community colleges, but it is certainly helpful to have programs that are modern. Obviously, this makes the programs more attractive to potential employers.

Jack Bailey:

Community colleges need to have persons on their staffs who can assess the basic needs of business for trained personnel, and who can converse with business people in terms that are mutually understandable. It helps if those staff persons have a business background and know something about the economic development process.

Michael Crawford:

To position themselves better for economic development, I believe community colleges must recognize first and foremost that to be successful they must work with and through the existing economic development and chamber of commerce organizations. As I mentioned earlier, we are not in competition with these organizations, but we should complement their economic development efforts. That means getting to know the people in charge of those organizations and gaining their trust and respect. It means becoming actively involved on a day-to-day basis with leaders in the business community in order to get in the "middle" of that community, and to get the feel and pulse of its problems, successes, and needs.

Successful economic development is selling. As a member of a team, we must be innovative enough to anticipate the types of programs and services that are of interest and are saleable to the business community. We must then create those programs and services and market them through these existing organizations. If we can help the economic development and chamber of commerce executives by giving them a new product to sell in the economic development arena--that is, if we can help them do their jobs better--we will ultimately position ourselves better for economic development.

Dick Weeks:

Community colleges can position themselves better by encouraging their faculty and staffs to become more active in community activities of interest to the private sector. Long-term recognition and commitment for an aggressive, comprehensive program at the policy level are also important.

Jim von Gremp:

Work with the economic development division to determine what specific needs new industry is likely to have.

4. ***What new service could community colleges provide to enhance economic development?***

Terry E. Branstad:

I think it's important that community colleges continue to work closely with state government, and with their local governments and local chambers of commerce. Each community may have different training needs, so the services community colleges should provide might vary from area to area. Naturally, community colleges should continue to provide the outstanding job training resources they are currently providing.

Jack Bailey:

Community colleges could survey the needs of the industrialists and business people in their areas more frequently as to what kinds of training programs would best aid in retraining workers in the existing economic base.

Michael Crawford:

When considering new services that community colleges can provide to enhance economic development, I think we have to remember that virtually every business we are dealing with is primarily concerned with three things: profitability, productivity of employees, and the quality of their performance. Any new programs or services that we develop, in my opinion, must address one or more of these concerns.

One new service that we have used successfully at our community college is simply that of coordination. New industries, many of which have their corporate offices out of the state or the region, are looking at coming into an area and hiring new people. They have concerns about training those people. They are interested in on-the-job training. They are interested in reducing their initial start-up costs, thus enhancing their profitability. If our community college can help alleviate some of the headaches and worries by serving in a coordination role, that in itself is a product to sell. If we can sit down with a company, explain the plethora of programs and services that are currently available, offer to assist them in their hiring and in their on-the-job training of new employees, and coordinate the various programs and existing agencies that do this, we have provided a valuable service to this new industry.

Dick Weeks:

I am not sure that community colleges in general need to identify new services as much as they need to do a better job of refining and marketing their existing services.

Jim von Gremp:

Community colleges could work with companies to provide specialized training using that company's personnel as instructors. Through monitoring a course, an outline could be developed for use in similar new industry moving to that state.

5. ***Economic development necessarily has a shroud of secrecy surrounding it. What constraints have you found or heard of others finding in working with open public institutions such as community colleges?***

Terry E. Branstad:

To date I am not aware of any major problems with the involvement of community colleges in the economic development process. It is important that we in the public sector, who are working with a private sector prospect, not announce any decisions until the private company is ready to do so.

Jack Bailey:

Very few constraints come to mind. However, concerns for confidentiality of some training processes related to efficiency of production have been in evidence. Some companies, of course, are sensitive to concerns of the public about the use of public funds to aid private endeavors, and these firms may elect to conduct training programs themselves, or insist on paying the institution for the training rather than accept incentive programs.

Michael Crawford:

As chancellor of a public community college, I have not found or heard of problems or constraints between the private and public sectors in dealing with confidential matters. To ensure that these types of barriers do not arise, I want to go back to something I said earlier in responding to one of the questions--that first we must gain the trust and respect of those with whom we work in the area of economic development. Before we can expect others to share confidential information, they have to know that we, too, will maintain confidentiality. Just like any other type of business, if you are going to function as a team, then the members of that team must feel comfortable in sharing information, in developing strategies, and in anticipating problems without the concern that information will somehow leak out into the community.

Dick Weeks:

I have not found secrecy to be a problem in dealing with community colleges. It is important for the officials and staff of the community college to recognize the need for confidentiality and to be able to make commitments for the institution without having to reveal the name of the company.

Jim von Gremp:

The primary constraint has been the long lead time necessary to get a training program funded and approved. This conflicts with a company's need for confidentiality of information.

Practical Advice for Community Colleges

Before a community college can play any kind of role in the economic development of a community, it is clear that a great deal of groundwork must be done both within the college and in the community to identify exactly what that role will be in relationship to the other members of the team. The following sections summarize the perspectives and recommendations of the five Iowa leaders interviewed in the preceding part.

Getting the Participation Process Started

The consensus opinion of those concerned with local economic development efforts seems to be that even the college most successful in economic development cannot and should not be expected to play the major role in the community. The economic development team should be headed by a chamber of commerce or a local economic development group, and the college should provide the education, training, and other support.

The primary responsibility of the head of the economic development team is pooling the resources of the community in developing the local economy. It is important for the college to understand fully that its role, although very important, is secondary, and the college should not try to take complete control. Without this understanding, the local community college risks alienating the other individuals and organizations within the community, thus seriously hampering its effectiveness as part of the team.

As the economic development team evolves, it is important to know and understand what power bases are operating within the community. Team members should make it a point to become acquainted with the people who make things happen in economic development, such as the bankers, heads of economic development groups, chambers of commerce, the leaders of downtown business associations, realtors, community development people in the city and county governments, and any other key figures.

Once these key players have been identified, the next step is to understand each one of them. What do they have at stake? What motivates them? What personal reasons might be involved in making them take an interest in economic development? The second step is to learn which of these individuals are the most effective, what their work habits are, and what types of ideas and approaches appeal to them. Once these questions are answered, the community college can begin to take steps to meet its needs. If the community college can help these individuals succeed, whether it be in the area of finances or of improved job performance, it is more likely to be successful in becoming an effective member of the economic development team and a vital part of the whole process.

Learning from the Past

It is important to inventory what others have done to promote economic development in the past, to determine what has worked and what has not worked, and to identify the programs' strengths and weaknesses. Once they have been identified, it is important for a community college to determine how it can continue to build on the strengths, and at the same time, to determine what it might be able to contribute to turn the weaknesses into strengths.

In determining what data are already known, the community college should work with the key individuals identified earlier. As new data are gathered, the college's resources, faculty, and staff can be utilized to assist those individuals in obtaining up-to-date information that will help their job performances. By providing this assistance, the college indirectly enhances its own position in the community.

Developing a Plan

Once individuals, data, and previous economic development history have been identified, prioritized, and inventoried, the next step is to develop a plan. The plan will explain how to fit the community college into the existing economic development network by identifying what the institution has to offer and how it can be made attractive to the power bases operating within the community. The plan will revolve around key individuals and must take into consideration what has worked in the past. Perhaps here the college can provide some creativity in organizing the plan to promote new concepts. Part of developing this plan includes identifying available monies and packaging services.

Probably no other local community source is in a better position to identify what state funding sources are available than the community college. An inventory should be taken of what programs are available through the community college, the state or federal government, and other agencies or organizations that are devised to enhance economic development. Program examples include the following:

- Activities funded under the Job Training Partnership Act
- State and federal programs that are designed to stimulate economic development by providing training for businesses already in the area but undergoing expansion
- Programs that reimburse on-the-job training costs
- Programs that pay for instructional activities
- Programs that provide targeted tax credits to companies that create new jobs
- Programs that reimburse employers for hiring veterans or minorities
- Programs that are available for specialized businesses, such as small business, exporters, and others
- Programs that are designed to help reduce start-up costs of new industries locating in the area

There are a multitude of such programs available, ranging from the local to the state to the federal level and focusing on the creation of new jobs, retraining possibilities, and productivity improvement of current personnel. Once an inventory of these opportunities has been completed, it is important to step back and see how they fit together, and to determine what types of packages can be created from this variety of programs.

Once the local, state, and federal programs have been identified and clearly understood, determine which programs will pay for training and instruction, which will assist in on-the-job training reimbursement, in the recruitment and selection of employees, and so forth.

It is important to put this puzzle together in such a way that it will be attractive to a prospective business or to an expanding one, and at the same time, still be attractive to the community's power structure. The idea is to develop a new sales tool for your economic development team. If the community college can provide a new mechanism for recruiting new or expanding industries, then it continues to be a vital member of the economic development team.

From the multitude of programs and services that local, state, and federal governments offer, the goal is to compile a package of services that would--

- pay for all recruitment, assessment, and screening of new employees of new industry;
- pay, perhaps from a completely different source of funds, for an instructional program to teach new employees their jobs; and

- provide on-the-job training reimbursement for newly employed individuals that reimburses the employer for 50 percent of the new employees' wages.

In organizing this attractive package of services as an economic development recruitment tool, the college has essentially eliminated hiring costs through one program and training costs through another, and has provided substantial reimbursement of new employees' salaries during the first year of employment with a third program. It is important to remember that while education for education's sake is a lofty goal, in the business world the more the benefits of training are tied to enhanced profitability, improved productivity, or greater performance, the greater success the community college will have in selling programs and services to the business community.

In this scenario, we not only have devised a rather creative package of services, but we have also given other members of the economic development team something else to sell prospective businesses or industries. Not only can the community college now provide businesses with a work force, but it can also guarantee improved productivity by making employees productive the first day they are on the job.

This is just one example of how services can be packaged to develop a creative sales tool for promoting economic development. It is likely that this package of services could mean savings of thousands or hundreds of thousands of dollars to the local companies.

Once these strategies have been devised, success of the program is contingent upon making the power bases in the community aware of what can be offered, and how this particular combination of programs and services can benefit them in their desire to attract new and expanding industries.

Identifying Benefits for the Community College

While working through the process of understanding and motivating the community, simultaneous work must be done to promote understanding and motivation within the college. Many of the elements involved in understanding and motivating the community are also relevant in the orientation of college staff.

The college must recognize what benefits economic development has for the college, the faculty, and the staff. Some of the most visible benefits of working with industry include--

- an expanded tax base,
- new jobs,
- placement of college graduates,
- training opportunities,
- retraining opportunities,
- an ongoing continuing education opportunity,
- a new source of corporate gifts and contributions,
- new families moving into the area, and
- a source of new full-time and part-time students.

Working with new industry also provides some intangible benefits such as new options to provide cooperative programs for students and opportunities for staff and faculty to update their skills by working in or with the business. It is imperative that the college seek and share input from the staff and faculty regarding the benefits of economic development to the college and that everyone look at it for what it means to the institution--an opportunity.

A requisite for a community college to become involved in successful economic development is a commitment to the overall effort. Lip service is not enough. The commitment of the institution must come from the president or chancellor, from the board of directors, from the administration, and, at least initially, from the faculty. The institution must also be willing to commit financial and human resources to this effort. The community college must understand its own economic and business role in the community, yet many educators have difficulty admitting that institutions of higher education are businesses and have a place within the business community. In many areas, the community college is among the largest employers in the region.

Community colleges are businesses in the sense that they employ numerous individuals and have a product to sell--education and training. Their concerns are the same as those of any other business--income and expense, productivity, and performance. Although profits may not be measured in dollars, college profits are measured in highly trained graduates, in a good reputation so that people will return to the classrooms and enroll in college programs, and in full-time equivalent enrollments. Similarly, colleges are concerned with the productivity of employees. Community colleges invest in staff development and new equipment in order to improve the productivity of employees, thus improving the service offered to students. Likewise, community colleges are concerned with performance. How well are they doing their jobs? How highly trained are their graduates? If performance is not of the highest quality, the institution's profitability and productivity decrease.

Organizing the College for Economic Development Efforts

Once the benefits of economic development for the college have been recognized, the institution can begin to organize internally. There is no single way to organize economic development efforts to ensure their success. Each institution must look within itself and determine the most efficient method of organization. Several factors, however, may be of assistance in putting together such an organization.

It is important to have one individual with the ultimate responsibility for coordinating the college's economic development efforts. That individual should be a top administrator at the college or in the college system. One reason for this is that the business community needs to know that the institution places a high priority on its involvement in economic development. Ideally, the individual should work for the chancellor or president so that the top administrator stays well informed and can become involved at any point. Presidents of companies like to communicate with presidents of institutions or their designees. To relegate the economic development activities to a lower level staff member creates an obstacle between the business world and the college from the outset.

Another reason for selecting an individual highly placed within the college organization is the need for additional staff assistance. If the economic development officer is highly placed, he or she may not need a large, full-time staff, but has the authority to assign other staff members, faculty members, or administrators to work on a particular project on an as-needed basis.

This concept, over time, creates a high institutional commitment to economic development, promotes high visibility in the business community for the college official, and initiates a team approach within the college toward economic development by utilizing, as needed, the expertise of various staff and faculty. It not only eliminates the need for a large staff in economic development, but it also fosters the team approach to working with business and industry.

As the community college moves into the area of economic development, a certain segment of the faculty, staff, and administrators will support the idea from the outset. It is important to identify these key individuals and utilize them as part of the economic development team to help spread the word throughout the college organization. It is crucial to remember that the one or two individuals working in economic development cannot and should not be expected to carry the total burden for economic development. Much additional talent is available in a community college. The goal must be to identify the key supporters and rely upon them to assist in developing additional support from within for the economic development efforts. Equally important is the process of identifying particularly strong departments, programs, and services, and using their key staff in the college's economic development efforts.

Once these individuals, programs, and services have been identified, this provides the foundation on which to market the college. At the same time, it is necessary to build new programs and services of assistance to economic development, and it is also important to identify the college's strengths and to emphasize them. It provides a foundation of sales tools to build upon in the years ahead.

Although it is imperative for the chief executive officer and the economic development officer to be involved in business activities and organizations, it is also imperative to involve selected faculty, staff, and administrators in the business community as well. This not only strengthens the team concept internally, but it also provides faculty, staff, and others with new challenges, new opportunities, and new contacts. These individuals become the eyes and ears of the college, looking for economic development opportunities and plans, bringing that information back to the economic development officer, and becoming involved in a project from the beginning.

As stated earlier, no one individual can handle economic development alone. By helping to get other employees of the organization involved in the community, the economic development officer and the chief executive officer immediately expand their contacts in the business community. As these individuals become involved in economic development projects, other staff and faculty will sense the excitement, the creativity, and the new directions, and eventually will seize an opportunity to become involved themselves. Quite naturally, a certain number of individuals will never have an interest in participating in economic development. It is important to recognize this, but certainly not to become concerned about it.

By being able to pick and choose the appropriate employees of the college as needed, the economic development officer can feel free to utilize faculty and staff to work individually or in small groups with state or local economic development organizations, local chambers of commerce, and economic development planning and research activities, to name a few. College employees must be given the opportunity to participate, and they must be given the opportunity to succeed. College commitment is a prerequisite to participatory achievement.

Marketing the College's Plan

Every business person knows that marketing is the key to business success. Historically, this is an area where many educational institutions have fallen down. Society today is attuned to advertising slogans, exciting images, and enhanced perceptions. When working in economic development, colleges must realize that they are involved in the business world, not in a fantasyland. In presenting a community college to prospective businesses and industries, it is important to place a major emphasis on marketing efforts and strategies. The business person is certainly going to be evaluating the college's marketing effort, and it is critical for the college to be cognizant of that fact. After all, the college's marketing effort is going to be the first opportunity that the business person has to become acquainted with the institution.

The idea is both to sell the college, and, also as part of the total economic development team, to sell it so others within the community will notice the marketing efforts as well. While four-color glossy brochures may be important, they simply are not enough. The business person will be looking for substance, for a variety of programs and services, and for the way in which they blend together. Keep in mind that the business person is primarily concerned with company profits, productivity, and performance. The community college must gear its marketing strategies to those areas and devise an economic development marketing plan in concert with the other marketing efforts of local businesses with the same goals. If the marketing strategy does not take into account all of these factors, it will be less than successful.

Suggested Economic Development Activities

A frequently overlooked component of community college economic development assistance is the promotion of international trade. Whereas many community colleges may not see this as a realistic area in which to provide assistance, there are numerous opportunities for joint ventures in the international field.

Identifying International Opportunities

Thousands of jobs have been lost in America due to decreased exports and increased imports of consumer goods, oil, and other products. Recognizing that the world is comprised of interdependent societies and countries, community colleges can create opportunities for economic development that are beneficial to the private sector as well as to the community college.

In a variety of ways, the college can play a key leadership role in working with small businesses that have an interest in exploring the international market for their products. For example, the institution may hire an experienced individual who can work on a one-on-one basis in helping small- to medium-sized industries explore what potential the export market has for their particular products. Naturally this international consultant must have expertise, background, and knowledge of international trade and the way in which the game of international business is played.

This type of project should certainly be offered in connection with existing business and local exporting organizations, such as chambers of commerce, international trade groups, export bankers, and so forth. Many times, through a combination of these sources, funds can be obtained to hire such a person. While working on a one-on-one basis with a company, helping it explore the possibilities available in the international market for its product, this person could have other very important responsibilities. As the international expert becomes familiar with local individuals and companies that currently do a great deal of exporting, this person inevitably develops an expertise that can be called upon to assist other businesses and industries who have yet to become part of the export market. Also, as consultants work with potential exporters, helping them determine the feasibility of exporting their products and perhaps helping them get into the export market, they become aware of issues related to exporting that cut across the various businesses and industries and indicate trends in exporting or potential markets.

Determining educational needs is certainly a role of the community college, that is, providing continuing education with current, timely information on subjects of interest to the business community. Personnel from experienced international trade companies can become involved in the instructional programs of the college. Such partnerships may lead to new, full-time programs on campus in the area of international trade or documentation.

In retrospect, the scenario just outlined provides a number of pluses for the community college and the business community:

- The business community receives expert assistance in exploring and becoming part of the export market. If successful, the activity increases company profits and creates new jobs in the local company, which leads to the economic growth and development of the community.
- In drawing on the international trade expertise of a local community, a community college has an opportunity to utilize that assistance for classroom instruction, thus internationalizing the curriculum.
- Continuing education issues are determined on an ongoing basis, as the international expert becomes attuned to the international requirements of businesses and to the opportunities for workshops, seminars, and so forth in the area of international trade.
- Spin-off benefits may include the creation of new, full-time credit programs on campus in such areas as international trade and documentation. In this situation, the community college, in playing a leadership role, creates a number of opportunities for itself. It also enhances the ability of many small- and medium-sized businesses to get into international trade, to seek out information, to explore what opportunity international trade has for their businesses, to increase profits and numbers of employees, and to determine new areas of training opportunities. Perhaps the greatest benefit is the creation of much closer ties to the business community itself, utilizing the expertise of current exporters and potential exporters to enhance the college's own programs and services.

Providing Assistance to Small Business

Another example of a community college opportunity in economic development assistance is with the small business community (i.e., businesses employing 20 or fewer employees). This is an area in which many community colleges have become active in recent years to improve and increase services. Fully 85 percent of the businesses in this country are considered small businesses. It is anticipated that, in the next decade, many new jobs will come from the small business sector. Primary goals should be to increase the number of individuals wanting to start their own small businesses; to help those who are already in business grow and expand, thus creating new jobs; and to assist those who are in business, but are having difficulty staying solvent, in keeping themselves and their workers employed.

Although many community colleges have been involved in providing programs and services to small businesses, what is lacking is a comprehensive program that provides continuity of information and services over an extended period of time. Quite often, seminars, workshops, and courses are offered on an infrequent basis, and do not provide the continuity that the small business person desires. Small business assistance is a very popular topic with small business, chambers of commerce, downtown development groups, the federal government, state government, and various other agencies and organizations. The role of the community college can be to coordinate and package services in a very creative, yet logical manner. Community colleges should provide a variety of informational and instructional programs and services to the various components of the small business community.

Figure 1 suggests the services that might be offered to these components. It shows an attempt to provide a variety of programs and services to subgroups within the small business community. Through use of the grid, a specific need can be identified and addressed in a given area by a specific group within the small business community.

To incorporate virtually all of these programs and services, given the variation within the small business community, a unique delivery system must be established. Many of the subject-area topics of interest to the small business community cut across all of the groups. It is necessary to develop a continuous, comprehensive, educational program that incorporates these areas of mutual interest into an all-encompassing instructional program. This instructional program may serve minority-owned business, women entrepreneurs, those wanting to start a business, those small businesses already established, and so forth. It would cover topics such as marketing, cash flow analysis, computerization, and a variety of other topical areas most likely to be of interest to the group as a whole.

These topics should be organized and delivered through an ongoing, comprehensive, educational program. Classes may meet one evening per month for a period of 2-3 years, so that upon completion of the program, the participants will have touched on virtually every area of small business operation and management. This ongoing instructional component of small business management assistance should become a core instructional program for any small business, whatever its type.

In addition to the core curriculum, specific services and programs should be added. An example of these services would be a small business library. Numerous publications exist that are designed primarily for the small business owner, but due to the volume and cost, many small businesses simply cannot afford to take advantage of these publications. A comprehensive small business library located within a community college would be a source of information at no cost to the small business owner.

Also, a one-to-one counseling service should be devised to assist those who are enrolled in the core curriculum to incorporate what they learn in the classroom into their specific business. The concept provides a comprehensive core of instructional programs of interest to the vast majority of small business people and complements the basic instructional program with a specific service.

The overall purpose of this emphasis on small business assistance is to help individuals who go into business on their own grow and prosper. Also, the intent is to assist those who are already in business in remaining profitable and productive, enabling them to continue employing new workers. Ideally, what is created is a closer bond between the small business community and the community college. This is another example of utilizing training, education, and information to enhance the economic development of the local community.

	How to get state federal contracts	Legislation	International trade	Sources of small business loans	How to start a business	How to write a proposal	Marketing	Cash flow analysis	One-on-one counseling	Library services
Specific groups within the small business community in need of these programs and services										
Minority-owned business										
Women entrepreneurs										
Those wanting to start new businesses										
Those small businesses already established										
Retail businesses										
Wholesale businesses										

Figure 1. Types of informational services and programs requested by various sectors of the small business community.

Needs Assessment for Economic Development

The community college is seldom the major leader and organizer of economic development strategies in a region. However, the college can take the leadership role in collecting and analyzing data. The experience base of most colleges includes considerable advisory council work, data collection and analysis, and facilitation of meaningful community discussions. The needs assessment process can be accomplished by taking these steps:

> ***Step 1: Define the institution's goal for doing a needs assessment.*** In other words, what is the question that needs to be answered? Consider these issues.

- How is economic development happening now?
- What are the local barriers to community development?
- How can the community college assist in economic development?
- Who are the people to be brought together to plan economic development activities?
- What worked in the past to improve economic development?
- How can the information flow on current economic development activities be improved?

A common mistake in needs assessments is lack of agreement on the actual question that must be answered. Too broad a question confuses the approach and often results in unclear data. Once the overall approach has been determined by the college, broadening the discussion base is helpful.

> ***Step 2: Establish a community-based task force to validate the questions to be answered and determine who should answer them.*** The most probable groups to be represented in this task force include the following:

- Business associations
- Construction associations
- Manufacturing associations
- Governmental agencies focused on job development, retraining, minority needs
- Transportation experts
- Chambers of commerce
- Area development commissions
- State development commissions
- Human service agencies
- Educational institutions and agencies

Step 3: Determine the breadth of the study. In an urban setting, partial sampling of some target groups is necessary, whereas total participation of others may be critical. The group should develop and review the total list of constituent groups to be sampled.

Step 4: Establish appropriate data collection methods for each constituency group identified. Several models that have been tested by community colleges have been published. These models are easily adapted to a variety of surveying purposes. Other possible approaches or methods are described below.

- *Key information approach*--This method would focus on data collection from individuals deemed "experts" by the task force. The information can be gathered by survey, phone, in person, or collectively.

The greatest advantage to this approach is the opening of communication channels.

- *Community forum approach*--This method can bring together large groups of individuals who are concerned about a particular issue. It can be established to serve as a means of listening to various viewpoints or presenting goals for reaction. (A variation of this approach is described later in this chapter as the nominal group process.)

- *Survey approach*--This method includes collecting data from a specified population, typically in a sampled form. The most frequently used means of surveying include written surveys, personal interviews, and phone surveys. If done properly, the survey approach has the greatest potential for producing valid information. Surveys can be done quickly. They are frequently the least expensive method of gathering information and can often be contracted to an outside source.

Step 5: Establish the plan for data collection, the depth of the approach, and costs for completing the plan.

Step 6: Approve the process and implement.

Step 7: Summarize the data in a common format for review by the task force.

Step 8: Lay out the action appropriate to the question asked. It is often most logical that the college continue to serve the planning group as an ongoing resource, depository for data, meeting place, and advocate. The process of economic development is a continuous one, not one that works for a few years and then stops when the business climate improves.

Using the Nominal Group Process

The nominal group process is an intuitive approach to needs assessment and decision making. The advantages of using this approach are its speed, opportunities for dialogue among key players, and the fact that a consensus can be reached on major approaches. It has been used successfully by the Eastern Iowa Community College with chief executive officers of large businesses and industries, faculty, and community leaders. It has proven to be a positive method of generating lively discussion and good insights into the problems reviewed. See exhibit 1 for an outline of the actual process.

Summary

In this chapter the authors have provided a broad overview of economic development and the role that 2-year colleges might play. In the first part of the chapter they offered a working definition for economic development and discussed the importance of human resources in economic development efforts.

In the latter part of the chapter they offered practical advice, especially in terms of planning and organizing a college's economic development efforts, marketing the institution, and conducting needs assessments for economic development. They also discussed the variety of organizations and alliances that are making significant contributions on the national level to the task of assisting 2-year colleges in effectively advancing economic development.

EXHIBIT 1

THE NOMINAL GROUP PROCESS

Objective: To identify the major dimensions of economic development for a region by establishing a process whereby key community leaders share their ideas and reach consensus.

Procedure:

1. State the concepts to be considered, such as—
   - barriers to economic development
   - patterns of economic development
   - the future of economic development, and
   - mobilizing for economic development.
2. Describe the scope of the problem to be studied.
3. Charge the group to write ideas in brief statements, working independently, responding within 10 to 15 minutes to such specific questions as follows:
   - What are the positive trends affecting our area?
   - What are the negative trends affecting our area?
   - What changes in population, housing, industrial characteristics, financial trends, and so forth, do we see?
   - What are the probable changes that will occur in our business and industrial base?
   - What impact will the new technologies have on our area?
   - What patterns will emerge in economic growth and development?
   - What are the most important things to do to improve the economic development of the region?
   - What roles can the community college play in economic development?
4. Put up a flip chart for each question and elicit in round-robin fashion one idea from each member. Continue until all ideas have been recorded for each question.
5. Clear up any items on the list not totally understood by any group member.
6. Each group member then—
   - lists the five items from the flip chart that he or she considers the most important, indicating both the number of the item and the item itself;
   - places these five items in rank order (5 = most important, 1 = least important); and
   - gives the five prioritized items to the group leader.
7. Tally the group results so that all group members can see them (ensure anonymity of responses). Allow 10 minutes for this activity.

EXHIBIT 1—*Continued*

8. Discuss, if necessary, the results. If appropriate, repeat or revise the ranking order.

9. Record, on a separate sheet, the consensus of the rank order of the items to present to the group.

10. Develop a plan of action appropriate to the issues discussed.

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Part II

Building Linker Skills

Chapter 4
The Effective Linker

The effective linker, like the effective person in any role, should possess specific knowledge, skills, and attitudes. Whether one is screening others to serve in the linker role, or planning to serve in this role oneself, understanding what enables a linker to be effective is important.

This chapter will prove especially useful to the person who is about to or has just acquired the linking role. It is intended to provide the new linker with a *starting point*. The material in this chapter has been drawn primarily from the following document:

> Norton, Robert E.; Harrington, Lois G.; and Spencer, Carol J. *Establish Linkages with BIL/GM*. Module LT-J-2, Competency-Based Vocational Education Administrator Module Series. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), 1984.

What the Effective Linker Should Know

The term *linker* implies that an individual serving in this role must have knowledge of two arenas--education and business, industry, and labor (BIL).

The Education Arena

This individual, as a representative of an educational institution, must possess information about education on at least three different levels. A linker must have general information about education, specific information about the educational institution served, and specific information about the education/training competition.

Possessing *general information about education* is essential before assuming a linkage role. The linker should understand the general workings of the American educational system. For example, a linker should know the following:

- The providers of education and training
- The funding of education and training
- The key actors in both systems
- The role of government in education and training; its rules, policies, and regulations
- The types of programs typically offered by providers
- The curriculum development processes

Specific information about the educational institution served is also critical to effective linking. This second level of knowledge should be reached before any contact is made with BIL. This level includes knowledge of the specific educational institution, or institutions that are to be served. The linker must adhere to the following:

- Understand the organizational structure of the educational institutions being served
- Know specifically what training programs they offer or can offer
- Know the contact person at each institution
- Know what kinds of BIL involvement in education should be sought
- Know what kinds of educational services can be provided to BIL

Specific information about the education/training competition helps create opportunities for *collaborative relationships*--opportunities to provide BIL clients with the best available materials and programming. Collaborative efforts generally result in beneficial outcomes for everyone--clients are satisfied, the reputation of the educational community is enhanced, and a contribution is made to the economy.

Knowledge of the competition also results in increased *credibility*. Assume, for example, that an institution is working with an employer who has decided that his or her employees need a particular type of training to upgrade their skills. This institution can provide this training, however a salesperson from a commercial publishing firm has already convinced this employer to use their training package for in-house training.

It may be an excellent training package, or it may not be, however that is not the point. If this institution is to have credibility with this employer, then the institution's linker must be *aware* of and *familiar* with such materials or programs. The linker could then build on the situation. For example, he or she could do the following things:

- Point out *exactly* why this particular package is not appropriate for the employer's needs.
- Point out that this package is quite good but cannot stand on its own and then show how their institution could be involved, using the package, to provide the needed training.
- Point out that it is an excellent package and appropriate for the job--and then move on to other ways of linking with the employer. His or her institution may have lost this particular training opportunity, but chances are, a major step in establishing credibility and in developing trust was taken--which should facilitate future linkages.

The Business, Industry, and Labor Arena

To be truly effective a linker must have knowledge of the business, industry, and labor arena at at least two levels--first, a general knowledge of what might be termed the work world, and, second, specific knowledge of the local BIL environment.

A general knowledge of the work world, including a basic understanding of how the American economy functions, is important in terms of credibility. If a potential client obtains the impression that the linking agent doesn't really understand the national/international and local environments in which their organization must operate, then it is, of course, unlikely that they will have confidence in an institution's ability to meet their training/education needs. To demonstrate a general knowledge of the work world the potential linker should be able to answer the following questions:

- What businesses and industries are in growth cycles?
- What businesses and industries are on the decline?
- What elements characterize "big business"? Small business? How does each operate? What are the benefits for each?
- How does supply and demand operate?
- What is the effect of world competition on American business and industry?
- What is inflation, and how is it caused? What is its effect on business and industry?
- What other factors have an impact on the survival of business and industry (e.g., labor/management relations, regulations governing business and industry)?

Specific knowledge of the local BIL environment would include being able to answer the following questions:

- What businesses and industries operate locally? Are there a variety, or does one type (e.g., automotive industry, mining industry) dominate?
- How healthy is the local economy? Which plants are hiring or laying off workers? Are businesses closing in the downtown area? Are new industries moving to the area? What is the local rate of unemployment?
- Is organized labor a dominant force in the area? Does the state have a right-to-work law, that guarantees (1) a person need not belong to a labor union to get or keep a job and (2) a person may not be denied a job because he or she belongs to a union?
- What economic development activities are planned or underway locally?
- What governmental agencies, military bases, National Guard units, or military reserve units operate locally? How small or large a part do they play in the local economy?

The linker also needs to know the language or jargon of BIL: profit, loss, structural unemployment, aggregate demand, capital goods, union-shop agreement, slowdowns, elasticity of demand, labor resource scarcity, and so on. The "buzz" words. A linking agent must know how to present a proposed linkage activity using the terms that prospective clients are comfortable with.

It is also important that the linker be as familiar as possible with state or federal government incentives that might be available to support linkage activities. These facilitators can take many forms: tax credits, reduced-interest loans, government supported loans, training assistance, job placement services, labor market data provision, and so on.

The importance of understanding the language of business, industry, and labor cannot be overstressed. What follows are incentives Ohio linkers must be familiar with. Similar programs operate in most states. By contacting the appropriate agencies, linkers can obtain the relevant information that they will need.

Industrial Revenue Bond Program

Industrial revenue bonds (IRBs) can provide businesses 100 percent of the financing for eligible fixed assets. Interest rates are 3/4 percent to 3 percent below current market rates, and terms are up to 30 years, often with an option to buy the project financed at maturity.

A company that wishes to finance a project with an IRB enters into an agreement with an Ohio governmental body which is empowered to issue bonds; the agreement can be a lease, loan agreement, or installment sales contract. The governmental body then issues the bond, acting as a conduit between the company and purchaser, authorizing all terms, but with no moral or legal obligation to pay interest or principal, except from payments made by the company. Interest earned on an IRB is tax-exempt for the bond purchaser, so that interest paid by the company financed by the bond is generally lower than the market rate.

Direct Loans and Loan Guarantees

The Ohio Department of Development provides direct loans and loan guarantees to businesses for new fixed-asset financing: land, buildings, and equipment.

Loans and guarantees are intended to stimulate expansion or relocation in Ohio of businesses engaged in industry, commerce, distribution or research, and to create jobs. Therefore, the Department of Development evaluates applications on the number of jobs to be created or retained and the need for government assistance, as well as ability to repay the loan on the terms established. Approved applications must have final approval from the State Controlling Board.

Small Business Administration 503 Loan Program

The Small Business Administration (SBA) 503 Loan Program can lend small- and medium-sized businesses up to $500,000, representing up to 40 percent of the total cost of a qualified project, at lower than market rates. In Ohio, these funds are administered either by a certified development corporation or by the Ohio Statewide Development Corporation (OSDC), a nonprofit corporation.

Ohio Treasurer's Linked Deposit Program

Businesses with 150 or fewer employees are eligible for reduced-rate loans under the Ohio Treasurer's Linked Deposit Program. Loans are provided for projects that create or retain Ohio jobs.

The Treasurer's Linked Deposit Program invests up to $100 million of Ohio's portfolio in certificates of deposit at 3 percent below current market rates. The financial institutions around the state, holding these certificates, have agreed to lend the value of these certificates at 3 percent below the current lending rate.

Women's Business Resource Program

The Women's Business Resource Program helps women who are interested in starting, expanding, or managing a business in Ohio. It ensures equal access to the state's business assistance programs and provides direction to business resources throughout the state.

The Women's Business Resource Program helps companies locate financing methods and loan packaging, purchasing and procurement opportunities with government agencies and private industry. The program also studies legislation that may have an impact on businesses owned by women.

The program is developing a *Women's Business Enterprise Directory* and distributes information to other women's business information centers, small business enterprise centers, chambers of commerce, and the Small Business Administration.

Small Business Enterprise Centers

Small business enterprise centers (SBECs) are local sources of free expert advice and assistance for small businesses.

Each SBEC has business experts on its staff. SBEC staff uses the Ohio Department of Development's research, data, and management assistance programs to get businesses the information they need. Each SBEC is a liaison with local chambers of commerce, colleges and universities, labor unions, trade associations, private industry councils, and other public and private resources. Through them, SBECs can provide small businesses with--

- management and technical assistance,
- legal assistance,
- technical resources,
- educational programs,
- funding sources,
- procurement assistance,
- export trade opportunities, and
- small business incubator programs that help provide office space and clerical help to new small businesses.

SBEC services are provided at no charge. All information obtained for the purpose of identifying clients' needs is kept confidential.

Business Development Services

The Ohio Department of Development provides businesses with relocation and site selection services through the International Trade Division (ITD) and the Business Development Division (BDD).

The ITD is making Ohio an important factor in the global marketplace by promoting Ohio as an attractive location for foreign firms to establish manufacturing operations. And BBD works to create and maintain Ohio jobs through retention and expansion of established businesses, attraction of new businesses and assistance with local community development efforts.

Labor Market Information

The Labor Market Information Division of the Ohio Bureau of Employment Services (OBES) provides up-to-date labor force data to Ohio employers. Labor market analysts are located in Akron, Bowling Green, Canton, Cincinnati, Cleveland, Columbus, Dayton, Findlay, Steubenville, and Youngstown.

Ohio Data Users Center

The Ohio Data Users Center (ODUC), with a central location in Columbus and 42 affiliate centers, brings together census and statistical data from a broad range of standard and hard-to-find sources. Information is available in print, on microfiche, and directly over computer networks.

Job Training Partnership Act

The Job Training Partnership Act (JTP-Ohio) is a federally-funded partnership among business, industry, labor, education and government that provides job training to high unemployment groups. This program increases the pool of qualified workers and provides tax incentives and reimbursement programs for employers who hire them through the JTP-Ohio program.

The Ohio Industrial Training Program

The Ohio Industrial Training Program (OITP) provides financial and technical assistance to eligible companies for employee training.

The OITP works to retain jobs and improve productivity through education and improved management techniques. Eligibility for assistance is determined on a local basis, through 19 districts, each of which is run by a consortium of representatives of local public schools and business assistance organizations such as chambers of commerce.

Enterprise Zones

The Urban Jobs and Enterprise Zone Acts, introduced in Congress during the 1980s, and variously titled, were designed to allow a local government to designate areas within their jurisdictions, based on high rates of unemployment and poverty, as *enterprise zones*. Within such zones, residents and businesses receive numerous federal and local subsidies, including the following:

- Social Security tax cuts
- Reduction in corporate income taxes
- Reductions in property tax rates

This bill provided for the following:

> Firms that employ 50 percent of their workers from within a zone were to receive a 15 percent reduction in corporate income tax rates. They also could take 3-year straight-line depreciation on investments up to $500,000, extend the loss carryforward to 10 years, and use the cash method of accounting if their gross incomes were below $1.5 million. (Tropper 1981, p. 2)

Businesses operating within one of the high-unemployment areas designated in Ohio as "enterprise zones" can qualify for substantial state and local tax relief . . . in some cases, abatements of up to 100 percent for up to 10 years on real property and tangible personal property used in the business, with additional corporate and business incentives.

The Urban Jobs and Enterprise Zone Act works to increase business activity and employment through tax incentives. Such areas are pinpointed by local authorities: municipal corporations or boards of county commissioners designate enterprise zones within municipalities, with approval and certification from the director of the Ohio Department of Development.

The Thomas Edison Program

Operating under substantial grants from the Thomas Edison Program, Ohio's six world class advanced technology application centers (ATACs) throughout the state bring together academic, government, and business experts to help industries within Ohio become more competitive.

The Thomas Edison Program stimulates development and market application of new technologies, revitalizes existing enterprises, encourages innovative businesses, and creates new jobs in Ohio.

- *The Applied Information Technologies Research Center*, Columbus, at The Ohio State University. New information technologies for office, school, and home.
- *The Cleveland Advanced Manufacturing Program*, Cleveland, at Cleveland State University, Case Western Reserve University, and Cuyahoga Community College. Research and development in manufacturing technology.
- *The Edison Animal Biotechnology Center*, Athens, at Ohio University, The Ohio State University, and Case Western Reserve University. Genetic

engineering technology to improve livestock.

- *The Edison Polymer Innovations Corporation*, Akron, at The University of Akron and Case Western Reserve University. New polymer technology for commercial/industrial use.

- *The Edison Welding Institute*, Columbus, at The Ohio State University. Research and development, applications engineering, education, training and technology transfer, for the use of welding technology in manufacturing.

- *The Institute of Advanced Manufacturing Sciences*, Cincinnati, at the University of Cincinnati. Systems analysis, automated equipment development, and laser technology for manufacturing.

- *Innovative Research Financing Program (IRFP)*, statewide. State funding is available for technical research and development projects carried on jointly by industry and an Ohio college or university. Applications can be made for projects at early and advanced stages; new awards in each category are announced monthly.

  Companies that submit studies to determine whether an idea can be turned into feasible commercial use are eligible for matching funds of up to $50,000. Experimental or theoretical research on new ideas, including technologically advanced processes and systems may also be eligible, if the research is necessary to establish the commercial potential of a project.

  Companies that submit proposals to develop a proven concept for commercial use in projects that aim for a measurable technical product (such as a prototype, or precise specifications) are eligible for matching funds of up to $250,000 in the form of risk capital that may be recovered by the state in royalties after the product goes to market.

The Skills of the Effective Linker

Beyond the skill of talking the language of BIL, there are certain other skills that have been identified as crucial to the role of the linker. These are organizational development skills, interpersonal skills, and management skills. Successful linkers in the field indicate that these three skill areas must be well-developed.

Organizational Development Skills

Organizational development skills, although not generally discussed in the linkage literature, are important to the linking agent. Organizational development (OD) is a field of practice concerned with increasing effectiveness and health through planned interventions in an organization's "processes." In the context of this discussion, the OD practitioner is concerned with the overall functioning of the organization, rather than with obtaining funds for institutional operation. One primary concern to the OD specialist is managing change and the resistance to it.

Linkers need not become OD experts to be effective; however, familiarity with some of the principles of OD and some skill in using OD techniques will pay substantial dividends.

A requirement for OD practice is understanding how organizations are structured and how they operate. Linkers are likely to be more successful if they have some understanding of organizational theory. Armed with this understanding, linkers will be able to ask questions about the organizations that they are attempting to link with, and the answers will provide ammunition to effectively foster change. Questions that linkers should be able to answer, at least to some degree, include these:

- Where is authority focused? Is there a centralized or decentralized structure?
- How "rule-bound" is the organization?
- How are the organization's goals determined?
- What are the most effective communication mechanisms and channels within the organization?
- What is the nature of the value system of the organization? How is training viewed? How is change viewed?
- What would the effects of certain changes be?
- Where might the best intervention points be?

It is also important that linking agents understand the change process and possess some skill in using change management techniques. There is a large body of research on how people and organizations change. Based initially on observations of successful change efforts found in agricultural extension agencies, diffusion researchers discovered that change is not an event. Change is a process. Successful attempts to diffuse innovations or information in order to bring about change acknowledged that people move toward change through phases (Rogers 1962). Some of these phases are--

- awareness,
- interest,
- evaluation,
- trial, and
- adoption.

In other words, if linkers ask prospective clients to adopt the linkage notion too early in the linking process, chances for success will be diminished. People need time to reach an adoption decision. If linkers understand the change process, and can determine at which stage in the process their client is, they can devise appropriate strategies to move that person or group toward subsequent stages in the process.

The same situation holds true in the linker's own organization. In most educational institutions, community and technical schools being no exception, some instructors and administrators may be strongly opposed to change and may have to be sold on contributing to the linkage efforts of the institution.

If linkers can gain skill in using some of the techniques used by OD practitioners, then the job can be made a great deal easier. The following is a listing of some of the more important techniques that can be of use to linking agents.

- Nominal group techniques
- Values clarification techniques
- Team building
- Brainstorming
- Group meeting methods
- Intergroup problem solving
- Conflict management
- Role negotiation
- Responsibility charting
- Goal setting

- Problem diagnosis
- Priority setting
- Action planning
- Data collection and feedback

Interpersonal Skills

The job of linker requires effective interpersonal skills--skills that allow linkers to effectively interact with others. Three interpersonal skills are particularly important to the linker: cooperation, communication, and conflict resolution.

Cooperation can be defined in many ways, but essentially it involves the ability to work with others to collectively achieve a desired goal. There are many facets of cooperative activity--teamwork, compromise, knowing when to take the lead and when to follow, when to hold back and when to push a little. The key factor is that linkers are persons in the middle. Linkers must maintain good working relationships with both education and BIL in order to develop a good relationship between them.

Communication is simply defined as a process whereby a message travels from a sender to a receiver. To effectively engage in linkage activities, linkers must ensure that messages travel intact from sender to receiver; misinformation must be avoided. Linkers must know how to package the messages that are sent, and must make sure that they understand the messages that are received. In short, linkers must possess good communication skills.

Keep in mind that the communication process involves much more than clear and concise oral communication. A good communicator is also an active listener. Superior communicators also take the time and effort to hone their writing skills. Persons who wish to be very effective communicators also take pains to note and remain aware of the nonverbal messages that are part of any human face-to-face interaction.

Clear, concise, and timely communication is essential for an organization to function effectively. Linkers must do what they can to ensure that a viable communication system exists within their institution. Without it, linking could be difficult if not impossible to accomplish. People are less likely to be cooperative if they are not aware of what the institution's linkage activities are, how they will be affected by them, and how the institution will benefit.

Memos, periodic phone calls, personal notes to appropriate administrators and instructors, school newsletters, articles in other school publications, bulletin board announcements, departmental meetings, and so forth are just some of the vehicles that can be used to keep people informed about linkage activities. Informed people are much more likely to be supporters of linkage efforts.

Resolution of Conflicts

How should linkers deal with conflicts? Avoid them? Take a wide detour around them? Confront the issue head on? Linkers should know how to deactivate a potentially explosive situation.

Unresolved conflicts can seriously hamper or even negate linkage efforts. However conflicts should not merely be resolved. In general, resolution should create what some call a "win-win" outcome; both parties to the conflict should come away as winners, each having achieved some portion of what they were aiming for when the conflict occurred. Of course, this is not always possible. Sometimes there must be clear winners and losers.

Management Skills

The individuals responsible for linkage activities must make decisions about, or provide input about resources--money, people, materials, and equipment. In short, they must manage. Depending upon their institution, linkers may be responsible for many resources, or may be responsible only for a small staff. Whatever the situation, linkers' responsibilities will be more easily shouldered if they possess certain skills--skills generally classified as management skills. The following is a list of skills particularly pertinent to linkage development.

- Record creation and maintenance skills
- Financial skills--accounting, budgeting, reading financial reports
- Planning skills--goal setting, quantitative decision-making techniques
- Control skills--budgeting, scheduling
- Organizational skills
- Time management skills
- Program evaluation skills

We could mention a number of other skills; however, those listed are probably most important to linkers. Program development for business and industry requires careful planning, a great deal of organization, and the ability to talk in terms of costs and the financial benefits that will be derived from linkage activities. Linkers, who are often somewhat transient, must also be personally well-organized.

The "Right" Attitudes

Some attitudes, although implicit in the skills and knowledge already discussed, should be highlighted. Individuals who are most successful in the linker role should possess certain attitudes:

- Linkers should be able to maintain a neutral stance. That is, linkers should not be perceived as having only the interests of his or her institution in mind. The effective linker must be perceived as a catalytic agent by all parties to any linkage activity.
- Linkers should be flexible. Approaching potential linkage situations with rigid preconceptions about what form the linkage will take is to minimize possibilities. Even though an institution might not be able to provide the kind of robotics program desired by a prospective client, it might be able to provide a supervisory training program.
- Linkers should be patient, persistent, and assertive. The development of sound linkages can be a lengthy, arduous task. Change is involved for the linker's organization and for the organization that is being linked with. Many organizations will also need to be convinced that linkage is to their benefit.
- Linking agents must also play the numbers and focus on successes, not failed linkage attempts. Aggressive pursuit of linkage opportunities will cause them to materialize--exceptional opportunities will not often be delivered to a school's doorstep.

Self-Assessment and Self-Development Strategies

Maximum effectiveness in the linker role calls for assessment and reassessment of one's qualifications relative to those demanded of the effective linker. The following development strategies and knowledge sources can be used to help linkers carry out the self-assessment and self-development activities that will help produce effective performance.

Sources of General Knowledge

If there is a need for general knowledge, about education or the economy, for example, there are several routes linkers can take to acquire the needed information:

- *Enrollment in college/university courses or adult/continuing education courses.* Regardless of linkers' present levels of knowledge, there should be a course to meet their information needs.
- *Reading texts, periodicals, and so forth.* If linkers prefer to work independently, or are not situated in an area in which a college/university course is easily accessible or if there is a lack of time for course work, then the necessary information can be acquired through reading related texts and journal articles. Reading journals and newspapers regularly is also a good way to keep up-to-date with the state of education and economy, as well as with the terminology common to each. The *Wall Street Journal*, for example, is an excellent source of information about the economy.
- *Legislative records.* To learn about the legislation authorizing vocational education and other training activities, including funding levels and guidelines for use of funds, documents such as the *Federal Register*, *Code of Federal Regulations* (CFR), *Commerce Business Daily*, *Education Daily*, *Education Week*, and similar documents at the state level, can be reviewed.

Sources of Specific Knowledge about the Collaborators

Some of the specific knowledge about the educational institutions and BIL organizations with which linkers will likely be working can be derived through reading, however it is primarily and most readily available through other sources. To acquire the specific knowledge needed, linkers should consider locally prepared reports, brochures, and other materials; local and state plans; personal contacts; and data banks.

Locally Prepared Reports, Brochures, and Other Materials

Materials prepared by the local chamber of commerce, for example, can provide excellent overviews of the educational institutions and BIL organizations operating in the area. Economic indicators and data should also be available from such sources, as well as from local government agencies. Schools and large businesses and industries often produce promotional materials, which may also contain useful information. Industrial guides, training periodicals, and trade journals produced locally can also be of use.

Local and State Plans

In each state, a state plan structures vocational programming. By reviewing the state plan, a good idea of the offerings and goals of vocational education in the state can be acquired. Furthermore, there *should* be a local linkage plan outlining the goals and limits of the proposed educational linkage effort. This should further define the scope of the linking agent's role and that of the institutions to be involved.

Personal Contacts

Perhaps the most profitable method of obtaining specific information is through personal contacts with agencies, organizations, and individuals locally. If information is needed about a particular school or business, a visit there to talk to people and tour the facility can be an efficient technique to use. Informal discussions with local government officials or BIL leaders can also be extremely useful in identifying economic conditions locally. The linker should consider developing--and maintaining--contacts with sources such as the following:

- Kiwanis Clubs, Jaycees, Rotary Clubs, Lions Clubs, Optimists Clubs, and similar groups
- Chambers of commerce
- Regional (or industrial or economic) development commissions
- Community improvement corporations (CIC)
- Job services
- Placement services
- Employment agencies
- Industrial professional organizations (e.g., American Management Association, American Society for Training and Development)
- Manufacturing associations
- BIL training directors willing to share information

Accessing Data Banks

Data on employment and training are available through the Bureau of Employment Services and the National Occupations Information Coordinating Committee (NOICC) and its state-level counterpart, SOICC. These tend to be aggregate data for broad geographic areas, however. It is usually best to rely on other sources for more specific local data.

Through tapping such sources, a variety of specific information can be amassed that can assist in developing linkages, including vital information such as the following:

- *Identification of persons or groups who can facilitate linkage efforts.* What leaders or opinion leaders are sold on the need for linkage and can help sell others? What specific persons, organizations, or agencies must be involved for collaboration to occur? For example, the involvement of Job Services or agencies to which an industry is responsible (e.g., Interstate Commerce Commission) may be needed. Union support may also be needed.

- *Potential barriers to collaboration in schools.* Do administrators seem to be reluctant to change; are they sold on the adequacy of existing programming? Are instructors somewhat threatened by the notion of having persons from BIL involved? Do the administrators and instructors think their co-op program is enough outreach and involvement? In short, how committed to linkage are the educators? How sold on the need for and importance of collaboration are they at present?

- *Potential barriers to collaboration in BIL.* Do persons in BIL have a lack of professional respect--

deserved or otherwise--for education's ability to provide high-quality programming? To provide students with entry-level skills? To provide retraining for employees? Do they have proprietary concerns (e.g., the need to keep a process secret) that make them reluctant to collaborate? Have they found in the past that education cannot develop and implement a program as quickly as needed? Does the company have itself organized and ready for collaboration? Do people in the company communicate adequately?

- *Access points within each organization.* Who should be contacted if the job is to get done?
- *Economic status and trends locally.* Are the industries in a growth or nongrowth cycle? What are the human needs currently? Projected for the future?
- *BIL workings and constraints.* What products does each company or agency produce? What services does it provide? How is it structured organizationally? What are its facilities like? How involved has it been with educators in the past, and how successfully?

Sources of Specific Knowledge about the Competition

Through personal contacts, linkers should be able to identify a great deal of information about other education/training providers in the area. But where does one go to identify competing materials? Consider the following sources:

- *Educational and technical trade journals.* Articles and advertisements in these journals can alert the linker to training materials that they should be aware of. Most publishers or developers are more than willing to provide information about their products.
- *Catalogs.* Writing to the publishers of educational materials and asking to receive a catalog or be placed on a mailing list will provide a substantial amount of material.
- *Conferences and media/materials fairs.* Publishers and other materials developers often attend educational conferences, training conferences, and media/materials fairs to promote their products. This gives the participants an opportunity to learn about the range of materials available, to peruse the materials at length, and to talk to experts about the materials--all in one place.

Summary

This chapter provided an overview of what effective linkers should know and the skills and attitudes they should possess. Linkers must possess general knowledge about education, specific knowledge about the educational institution they are seeing, and specific knowledge about the education/training competition. Linkers must also have knowledge of the work world in general and the local BIL environment. In terms of skills, linkers should possess organizational development, interpersonal, and management skills.

This chapter also provided a look at some of the attitudes that successful linkers should possess, and provided some strategies for linkers self-assessment and self-development.

References

Rogers, Everett. *Diffusion of Innovations.* New York: The Free Press, 1962.

Tropper, Peter. *Enterprise Zones: A Push from the "Invisible Hand" for America's Cities.* Washington, DC: Northeast-Midwest Institute, 1981.

Chapter 5
Developing a Linkage Plan

One of the most crucial tasks associated with the role of the linking agent is planning. This may seem a self-evident and obvious statement, but too often the obvious is overlooked. Institutions may rush to get on the linking bandwagon without an appropriate assessment of the future institutional goals, or the means by which goals might be reached. This could be a critical error since effective planning often means the difference between success, mediocrity, and failure.

This chapter provides guidelines for developing and evaluating effective linkage plans. The material in this chapter was excerpted and adapted from the following document:

> Norton, Robert E.; Harrington, Lois G.; and Spencer, Carol J. *Develop a Linkage Plan.* Module LT-J-1 Competency-Based Vocational Education Administrator Module Series. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), 1984.

Planning Steps

In order to reach the linkage objectives set for an institution a viable, comprehensive plan of action must be developed. The following nine steps, if conscientiously completed, will result in such a plan.

- Involve appropriate people in the planning effort.
- Review the institutional mission statement.
- Identify the economic development procedures and policies currently in place in the state and local area.
- Define the purposes and limits of the institution's linkage efforts.
- Identify the organizations/agencies wherein linkages should be established.
- Identify the types of collaboration/service presently possible or desirable in the future.
- Devise a general marketing strategy.
- Determine budget, facility, staffing, materials, and equipment needs.
- Determine how the linkage efforts will be evaluated.

Involve the Appropriate People

The best way to ensure that realistic plans are developed and that there is commitment to making those plans succeed is to involve the people who will be needed and responsible for making linkages work.

Administrators, instructors, counselors, BIL representatives, and community leaders should all be consulted and cultivated in order to identify their concerns, needs, and desires. And, since their involvement will create a feeling of "ownership" of the plan, successful implementation is much more likely.

One effective and efficient option is to begin the planning effort by forming a committee made up of persons already involved with the institution: members of the vocational education advisory council, and representatives from the instructional administrative, and guidance and placement staffs.

After the overall parameters of the linkage effort have been determined, planning could continue with the original committee, or a subcommittee could be designated to work out the details of the plan. A new committee could also be appointed or recruited to complete the detailed planning. The members of the new committee could be selected specifically to provide expertise appropriate to the overall linkage goals.

In seeking to involve appropriate people, attention should not be confined to committee membership. Especially in an effort involving outreach into the community and linkages with BIL. The key "movers and shakers" in the area whose support will be needed must be identified if the effort is to succeed. Some of these community leaders and opinion leaders may, of course, be members of the planning committee. Those who are not directly involved, however, need to be kept aware and informed concerning the institution's goals, efforts, and progress. Their support can greatly facilitate linkage efforts.

Review Mission Statement

Every postsecondary school, like every corporation, should have a mission statement describing its broad goals, purposes, and institutional philosophy. The planning effort should begin with a review of this statement; plans must be consistent with the mission.

It's important not to underestimate the importance of this review. The positive outcomes of linkage efforts--economic development and institutional income--might overshadow the stated institutional mission and take the organization in a direction that would negatively affect its mission fulfillment. It's important to remain focused--to maintain a clear picture of the major *raison d'etre* of the institution.

Identify Existing Economic Development Procedures and Policies

Before your institution can move to meet training and education needs, it must first determine what governmental mechanisms are in place that might structure or dictate linkage activities.

For example, the West Virginia State Department of Education employs a staff member responsible for working with new and expanding industry. A close liaison with the governor's Office of Economic Development often results in no-cost training being supplied by the state department when an industrial concern has training needs related to expansion or relocation.

This type of state-level commitment is becoming the rule rather than the exception. It is also becoming more widespread at the local level.

It is important that the linker identify all such existing structures in advance so that there is no unnecessary competition with, overlapping with, or violation of these authorized structures. If the state or local economic development officer is in charge of (1) developing and maintaining linkages with BIL and (2) identifying which training institution(s) to involve in providing the required training, then linkage plans will need to take that into account. Plans would thus be limited to ensuring liaison with the government linker and determining what services can be provided and how they can be provided.

If, on the other hand, there are no such formalized government linkage plans, then a more extensive, comprehensive plan would be required--which would include responsibility for developing and maintaining linkages with BIL locally, as well as providing the needed training.

Define Purposes and Limits

Before conducting any specific planning it is generally helpful to develop a written statement of goals and limits based upon the mission statement and governmental mechanisms that have been identified. This type of summary statement can be used to guide the more detailed planning done by the linker and/or the planning committees.

Identify Organizations with Whom Linkages Should Be Established

The extent of linker contacts will, of course, vary depending on the extent of linkage purposes and limits. For true linkage and collaboration to occur, these contacts must be substantive and continual. In general, local educational institutions should identify and plan to establish contacts with specific organizations/agencies of the following types:

- Education/training providers
- Community organizations/agencies
- Government agencies
- Business and industry
- Organized labor
- Military

Education/Training Providers

In order to efficiently and effectively link with BIL, it is helpful to know what other organizations or agencies are offering vocational-technical training locally. By taking responsibility for initiating contacts with other educators, by providing a forum for dialogue and sharing to occur, a linker will be taking the first step on the road to cooperation and collaboration--to articulation rather than competition.

Included in the set of *all* education/training providers are the following:

- Comprehensive high schools
- Area vocational schools
- Public postsecondary schools
- Proprietary postsecondary schools
- Colleges/universities
- Community-based organizations (CBOs)
- Job Corps programs
- BIL training programs

For more information about CBO, JTPA, and Job Corps programs, see exhibit 2.

Community Organizations/Agencies

It is important to maintain contacts with those community organizations and agencies that are "in the know" about local economics, business, industry, and labor. Chambers of commerce, Elks, Kiwanis, Junior Achievement, and so forth, can help in a variety of ways by--

- providing information about local employment conditions (e.g., who is hiring; what types of jobs are available or becoming available;

EXHIBIT 2

FEDERALLY FUNDED TRAINING PROGRAMS

CBOs

Community-Based Organizations (CBOs) evolved from a grass-roots movement in the 1960s to respond to the minority plight. CBOs later received partial support under MDTA, CETA, and JTPA funding. CBOs are private, nonprofit organizations that represent a community or a significant segment of the community, and their purpose is to provide employment and training services for (1) the structurally unemployed, (2) the socially abandoned, and (3) the disadvantaged. Because they serve clients who have often been alienated by "The System," they tend to offer training that is apart from and different than that offered by traditional vocational education institutions. However, institutions who can offer relevant programming (e.g., open-entry open-exit, less formal programs) can and do take part in CBO efforts.

Job Corps

Job Corps is a nationally directed program designed to serve those who are 14-21 years old and who are poor, out of school, and out of work. Its purpose is "to permanently break the cycle of poverty by improving the lifetime earning prospects of youth in need." Training is offered in a residential setting at selected *contact centers*, which are generally quite separate from the "normal" educational establishment. The feeling is that these are persons for whom traditional schooling did not work, and thus, there is no point in returning them to a setting that to them equates to failure. The students are trained in a self-contained, open-entry open-exit system. Learners have multiple learning options, are tracked based on their individual abilities, work at their own paces, and are provided with frequent achievement benchmarks to reinforce that they can succeed. Included in the training package are general education, basic life skills training, vocational training, and world of work experience. The students also receive allowances, health care, residential support, counseling, and access to recreational activities.

JTPA

JTPA stands for Job Training Partnership Act (1982). It replaced the Comprehensive Employment and Training Act (1973), that had replaced the Manpower Development and Training Act (1962). JTPA (P.L. 97-300) is intended to provide training for youth and adults for jobs in the unsubsidized private sector. JTPA funds are provided to the governor's office and from there are funneled to programs approved by the governor. There are adult and youth programs, summer youth programs, governor's special programs, dislocated worker programs, Job Corps programs, and other national programs. Public service jobs (e.g., shoveling snow) are prohibited. A total of 40 percent of adult/youth programs must be for youth; 70 percent of adult/youth program funds must be spent on training that includes work experience for which the costs are borne by the employers; administrative costs must be limited to 15 percent; and 10 percent of those served need not be economically disadvantaged.

JTPA programs are coordinated by a *state job training coordinating council*. Units of local government with a population of 200,000 or more, called *service delivery areas* (SDAs), decide, within given guidelines, whom to serve, what programs to provide, and who is to provide the service. Program planning is overseen by a *Private Industry Council* (PIC). PICs are responsible for policy guidance and monitoring of all job training activities in their area. Each PIC must establish procedures and performance goals for training providers; vocational-technical schools can serve as training providers if they meet the stated criteria.

which industries are closing, expanding, or moving to the area);

- serving as liaisons, initially, between linkers and the BIL community;
- alerting linkers to potential BIL training needs; and
- identifying the "movers and shakers" in the community--those official or unofficial leaders whose support may be needed in linkage efforts.

Government Agencies

Local or state government agencies concerned with economic development, employment, and training should be identified and contacted, and linkages should be maintained with them on a regular basis. Like community organizations, such agencies can provide information on local economic and employment conditions, projections, and needs. They can also provide information about policies and guidelines affecting the provision of training in the private sector, as well as funds or tax breaks that can be used to support training activities.

Furthermore, it may be that a particular government agency itself has employees who could benefit from training or retraining programs. Through appropriate contacts such opportunities can be identified.

Business and Industry

Preparing students for the work force requires gaining access to the work arena and determining what skills are needed and desired by employers.

Too often, vocational educators and employers both operate as if they were totally separate entities with nothing in common, or worse, as if little the other had to say were relevant. It is only through meaningful dialogue that these two groups can effectively offer vocational-technical training.

Linkage plans must allow for this dialogue to occur. Administrators must be in contact with local business and industry officials, instructors must remain continually involved in the world of work, and employers must be involved in the school's programs. And these involvements must be substantive.

If these types of meaningful dialogue and working relationships are established, it is likely that mutual respect will be built. This, in turn, leaves the door open to fully serve the employment community and better prepare students. If employers respect an institution's training abilities, they will be more likely to get out of the training business themselves and contract with that institution for the on-the-job training and retraining programs they require.

Organized Labor

Apprenticeship training is still the most likely service that might be provided for organized labor, although other kinds of educational/training experiences are becoming more important (retraining union employees after displacement, for example).

In general, these apprenticeship programs are 2 or more years in length, depending upon the skill requirement of the trade or craft. They are operated by either (1) an employer, (2) a group of employers, or (3) a joint apprenticeship committee (JAC) representing both the employer(s) and the union. Sometimes, a representative from the educational community is also included on the JAC. In some states, such programs must be approved by and registered with the state government (labor department) to be considered bona fide apprenticeship programs.

Apprenticeship training consists of two components: (1) on-the-job training and (2) related classroom instruction (minimum of 144 hours per year). More and more, JACs are engaging in cooperative ventures with postsecondary institutions for the provision of apprenticeship training, retraining and upgrading, and labor studies. In these cases, the postsecondary institution develops the programs at the request of, and with the approval of, the joint labor/management committee. Help in setting up these programs is usually available from the state-level Bureau of Apprenticeship and Training. In some cases, apprenticeship credit is being offered through programs at the secondary level.

However, according to Robert Glover (1980), Chairperson of the Federal Commission on Apprenticeship,--

> apprenticeship sponsors remain quite committed to retaining the essentially private character of the system, and they are highly resistant to any effort which they view as government intervention. Partly because of this suspicion of public sector involvement and partly resulting from the failure of public schools to understand apprenticeship and reach out to industry in the past, meaningful alliances between vocational-technical schools and apprenticeship programs are sensitive and difficult to build despite the fact that related classroom instruction is often provided to apprentices by local school systems or community colleges. (p. 1)

For this reason, it is important that educators "do their homework" before seeking such alliances. Knowledge of the various types of apprenticeships (e.g., construction vs. industrial-corporation based) and knowledge of the specific concerns of apprentice trainers in the immediate geographic area are essential if joint efforts are to become a reality.

Military

If there is a military installation in a school's geographic area, contacts also should be made with personnel there. New recruits require training. Civilian personnel often need retraining. Military spending at the federal level is not decreasing; defense preparedness is a top priority. A total of 51 percent of the defense budget is spent on personnel, and those personnel must be trained.

The military system has much experience in providing training, but local installations may be willing to draw upon your resources to meet specific training needs. Similarly military reserve units and National Guard units provide personnel with training--training needs that might be met by a vocational-technical school. For example, if a local reserve unit wants to train one of its members to operate word processing equipment, it may be more realistic to enroll that person in a program offered at a local technical institution than to plan and offer such training within the unit. Or, if a nearby military base wishes to train paramedics and a local institution offers an excellent paramedic training program, it would make sense for the military to tap that existing resource. Military installations may also provide excellent training stations for students in cooperative education programs.

Identify Types of Collaboration/ Service Possible/Desirable

The next step is to review the range of types of collaboration/services possible and to select those that would be appropriate to the local situation and realistic in terms of institutional capabilities. At the very least, BIL should be involved in an advisory capacity. Better still, institutions and BIL should be involved in some cooperative efforts. Best yet, vocational-technical education and BIL should develop a working partnership. Exhibit 3 shows a sampling of the types of collaboration/services that should be considered.

Devise General Marketing Strategy

All community and technical colleges, to varying degrees, engage in institutional promotion. However, many institutions do not *market* themselves and their products. Promotion is only part of the marketing process, which involves the product, its costs, and its distribution.

Marketing strategy development should begin early in the linkage process. Prospective buyers must be considered and a determination made of what products and product packaging is likely to appeal to them. It is much less effective, and often more difficult, to develop products and then devise the means to sell them.

The provider of educational/training products and services must determine buyer preferences and provide the right mix of product/service, price, and place.

Thus, as linkage *plans* are developed, questions such as the following must be answered:

- Who are the buyers and what are their characteristics?
- What is their present level of involvement in the vocational-technical system?
- What is their current opinion of vocational-technical education, and how can we improve our image and dispel any misconceptions?
- What types of products (i.e., programs) would appeal to them?
- What types of packaging (i.e., program characteristics such as open-entry/open-exit) would appeal to them?
- What types of promotional devices do they respond best to?

Selling, buying, standardizing and grading, financing, transporting, storing, and risk bearing are all part of marketing, and vocational-technical educators already address these program concerns, but separately. Marketing involves a different attitude--a total approach to producing program offerings. The emphasis must be on the consumer and on producing a product that best meets the consumer's needs and desires. Educators often operate as if they are in a seller's market. They are not; the market is a buyer's market, and any approach to designing, packaging, and promoting programs or collaborative activities must take the buyer into consideration.

Determine Supporting Items Needed

It is conceivable that determination of the supporting items needed--budget, staffing, facilities, equipment, and materials--may have been a first step rather than a last. That is, planning may have been based upon supporting item limits.

This approach is fine as long as those limits are not permitted to totally restrict planning so that key elements are foregone. Regardless of limits, it is best to determine (1) what must--at an absolute minimum--be done to accomplish linkage goals and (2) what should ideally be done. Then, given supporting item limits, small pieces of the plan can be attacked or additional support sought. The plan should answer the following types of questions.

Budget

What funds are presently available to support linkage efforts? What funds would be required to support activities specified in the plan (e.g., line items such as postage, duplication, telephone service, clerical support, professional staff, promotional materials, paid advertisements,

EXHIBIT 3

TYPES OF COLLABORATION/SERVICE

To improve vocational programming and establish linkages do the following:

- Ensure that each instructor or instructional area has an active advisory committee of appropriate BIL members and that this committee is involved in program activities in regular and substantive ways.
- Offer open houses and career days involving BIL attendance and participation.
- Provide opportunities for students to visit BIL facilities, to observe workers on the job, and to participate in on-the-job experiences.
- Arrange opportunities for students to receive training on up-to-date equipment not available in the school through temporary equipment loans from BIL or through on-the-job training.
- Promote placement of students in cooperative education programs.
- Respond to BIL suggestions concerning program changes needed to adequately prepare students to succeed in the world of work.
- Help BIL to identify other ways in which they can help improve program offerings (e.g., provision of human, financial, and in-kind resources).
- Provide for instructors (and administrators) to spend time in the world of work. For example, staff development credit could be offered for related work experience undertaken on weekends or during holiday periods. Exchange programs could be set up whereby an employee (with some training experience) trades places with a school instructor for a designated time period.
- Coordinate and articulate offerings with other providers of education and training.

To meet the in-house training needs of BIL do the following:

- Conduct needs assessments to identify employees' training needs.
- Conduct occupational analyses to identify skills needed on the job.
- Adapt existing secondary or postsecondary "on-campus" courses to meet training needs.
- Develop new on-campus courses to meet training needs.
- Develop program curricula for BIL trainers to use.
- Develop curricular materials and media for BIL trainers to use.
- Provide BIL trainers with technical assistance.

EXHIBIT 3—*Continued*

- Develop and offer BIL-specific training using their facilities and your instructors or vice versa.
- Offer outreach programs designed for and accessible to employees located at a distance from any vocational-technical institutions.
- Develop and offer programs to train BIL trainers.
- Evaluate BIL training programs.
- Consider all levels of employment when offering training:
  - Management skills
  - Supervisory skills
  - Technical skills

To expand program offerings for the unemployed seek opportunities to do the following:

- Assist dislocated workers.
- Cooperate with private industry councils (PICs).
- Share facilities, equipment, and personnel with other education training providers (e.g., CBOs).
- Offer entrepreneurship training.
- Offer remedial education.

travel, and so on)? Are existing funds adequate to cover funds needed? If not, what options are available to secure the needed funds, and what steps must be taken to do so?

Staffing

What clerical and professional staff will be involved in the linkage effort? In what ways will they be involved? Can the linkage activities be accomplished by existing staff as part of their regular activities or by adjusting staff responsibilities? Will new staff need to be hired (e.g., a full-time director of linkage activities, or additional instructors to provide the additional programs to be offered)?

The linkage plan, must be as thorough and as specific as possible at this point. If part of the plan is to increase instructors' use of advisory committees, then "all instructors" should be listed. If it is known who will be appointed to particular positions these should be listed. If not, positions to be filled should be listed.

Facilities

What building space will be required to support the plan? Will additional office space be needed? Is such space available? If not, how can such space be arranged?

If new BIL specific programming is to be offered, where will it be offered? Within the school? At the BIL facility? At some other outreach location? What arrangements must be made to secure the facilities needed?

Equipment

Equipment could include the typewriter needed by the new linkage director's secretary, as well as the minicomputers required to add a course to teach computer literacy. Again, plans must be reviewed to identify the stated or implied equipment needs. It must be determined whether (1) such equipment is currently available, (2) arrangements can be made to acquire such equipment (or access to it) from BIL, (3) a sharing arrangement can be worked out with another education/training provider that has such equipment, or (4) arrangements will have to be made to purchase such equipment.

Materials

What materials needs are stated or implied in the plan? What promotional materials will be developed, and what form will they take? Will they be designed and produced in-house or professionally? What other materials will staff require to support their liaison efforts with BIL (e.g., letterhead stationary, envelopes, business cards)?

What materials will be required to support the additional programming to be offered? Will additional instructional materials (e.g., texts, workbooks, learning packages) be needed, and if so, can they be acquired, or will they have to be developed in-house?

Determine Evaluation Methods

Plans should be made in advance to gather formative (process) and summative (product) evaluation data. Formative evaluation data will allow for midcourse corrections and adjustments to ensure that linkage plans unfold as conceived. Summative evaluation data will help plan effective future linkage efforts. Exhibit 4 provides examples of the types of questions that might be addressed in developing the evaluation component of a linkage plan focused on building partnerships for economic development.

If linkage plans have been thoroughly developed, they will facilitate evaluation efforts. With specific tasks listed together with their target dates, it is a relatively simple task to monitor progress and ensure that planned linkage goals are met.

Summary

This chapter has provided an examination of many of the elements involved in establishing effective linkages. The next chapter describes some of these elements in more detail, with a particular focus on administrative support requirements and promotional material development.

EXHIBIT 4

EVALUATION QUESTIONS

External Feedback

- How will you continually get feedback from the business community?
- Will you focus on data from employers served by the program directly?
- Is it important to get broad data from the larger district business community? If so, what mechanisms will you use?
- How will the economic development program's advisory committee participate in this feedback process? What will be their ongoing role?
- What mechanisms are now in place to assess the total district reaction to all services offered by the school? Are these adequate in light of the economic development emphasis?

Internal Review

- What internal mechanisms for program supervision and review of program quality are presently in place?
- Will the present system provide adequate supervision of off-campus instruction and services? If not, what mechanisms will you implement?
- How will you obtain feedback from the instructional staff directly involved in economic development services?
- How will you evaluate the impact and cost benefit relationships of various offerings?
- How will you ensure overall excellence in the economic development program?
- How will you evaluate and share the implications of economic development activities for regular program offerings?

SOURCE: *The Economic Development Opportunity*, n.d., pp. 57-58.

References

The Economic Development Opportunity: A Guide for Building VTAE District-Community Partnerships for Economic Development. Appleton, WI: Fox Valley Technical Institute, Economic Development Guide Committee, n.d.: pp. 57-58.

Glover, Robert W. *Apprenticeship in the United States: Implications for Vocational Education Research and Development*. Occasional Paper no. 66. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1980.

Chapter 6
Techniques for Establishing Linkages

A particular institution has committed itself to developing BIL linkages, has developed a detailed linkage plan, and has appointed a person who has the appropriate characteristics, knowledge, skills, and attitudes to fill the linking agent role. What should be done next? Should linkage activities be started? Probably not.

Several other elements must be addressed if linkage efforts are to successfully result. First, the administration of the institution must ensure that the person charged with linkage development has the support needed to fulfill his or her responsibilities. Second, appropriate descriptive and promotional materials must be developed and available in sufficient quantities. It's more difficult to market *services* without effective marketing materials than it is to market products.

And, finally, the linker should be aware of certain important *do's* and *don'ts* in terms of making, cultivating, and managing BIL contacts.

The material in this chapter that addresses these concerns was excerpted and adapted from the following document:

> Norton, Robert E.; Harrington, Lois G.; and Spencer, Carol J. *Establish Linkages with BIL/GM*. Module LT-J-2, Competency-Based Vocational Education Administrator Modules Series. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), 1984.

Administrative Support

Administrative support must go beyond a commitment to linking with BIL; tangible support is required. Most important is the provision of time--the time required to do the tasks. If an educator has split duties--half-time linkage development and half-time administration--then chances are good that the linkage job will never get the attention it needs. At the administrative level, as at many other levels, there is really no such thing as a half-time job. This is particularly a problem when a present administrator is reassigned to a part-time linkage role. Old roles may interfere.

The best situation is to assign a person full-time to the linkage role. It is next best, if the linker must hold a split assignment, to ensure through physical arrangements or scheduling that he or she will in fact be allowed to actually spend half-time developing and facilitating linkages. It may also be helpful to provide the half-time linker with some sort of simple procedure for documenting how much time was spent on each half-time assignment and what activities were performed relative to each. This can help to ensure that each assignment gets its fair share of attention. But some flexibility must be provided. If, for example, some linkage activities require full-time work for a week, then that should be possible. The other role should then get full-time attention the following week. Always spending mornings in one role and afternoons in the other may not be possible or even desirable in many cases.

In business and industry particularly, many productive contacts are made over lunch. If the linker is expected to participate in luncheon meetings, then the budget should allow for reimbursement. Any such expectations involving the expenditure of funds should be provided for. Typically, educational budgets do not cover such "noneducational" expenses. However, to work with BIL, education must cooperate with common BIL practices to some extent. This does not mean wining and dining them to obtain cooperation, but it does mean that if the linker can do his or her job best by meeting a business person over lunch, the luncheon should not be an out-of-pocket expense.

A dedicated office space is also important. The linker needs a place to maintain materials, develop reports, hold meetings, file records, and so on. This space need not be plush, but it should reflect the importance of linkages to the institution. This means relatively high-quality, well designed office space. A small, cluttered space that seems to be an afterthought will not create the credibility that is essential to linkage efforts. Persons from BIL must also be able to easily reach the linker to ask questions and make needed arrangements. The linker should also have access to sufficient clerical help as needed.

Finally, the administration may need to do some in-house public relations on an ongoing basis to ensure support for the linker. Other staff may resent the linker for having special privileges. It may be very important to orient staff to the linker's role and purposes and to sell them on the importance of this role to all staff. If staff understand the role, they are more likely to be supportive--of both the linker and the linkage effort.

Promotional Materials

In attempting to create linkages, BIL representatives must be moved through the change process, the first two stages of which are awareness and interest. They must be made aware of what linkage means and what linkage goals are being pursued. Once they are aware, they will probably require additional, more detailed information to study and consider. Some of these awareness/interest informational needs can be met through personal contacts, but initial contacts are likely to be brief. Informational materials that can be left with the BIL representatives for further, more leisurely, perusal must be prepared.

The types of materials required and the quality of the materials to be developed (e.g., typed and photocopied, and professionally prepared with color and photographs) will obviously vary depending on the local situation. If an institution is part of a statewide economic development linkage effort, it may have access to a wide variety of promotional materials. If only a single institution is involved, the materials may be fewer and more simply prepared. An institution or district should first consider the types of materials they wish to prepare and the general guidelines for their preparation. A description of some of these materials follows, as well as a look at the range and types of materials used in two statewide efforts.

Types of Materials

Appropriate materials are required that will (1) introduce the linker and the institution(s) he or she represents,

(2) explain the linkage effort, and (3) convince BIL to participate in the effort. In general, these purposes can be met through materials such as the following:

- Simple well-designed business cards, listing the linker's name, position, address, and phone number
- Brochures describing the linkage program, the school's goals and programs in general, the programs designed for BIL specifically, or the ways in which BIL can become involved in education/training
- Slide-tape presentations (7-12 minutes in length, maximum) describing the school and its programs, or past BIL linkage efforts
- Flip charts with key bits of information (illustrations, facts, charts, diagrams) on each page that can be used to guide and enliven presentations
- Simple handouts describing presentation points in more detail

The types of handouts that can be prepared are many: letter of introduction written by the chief school officer, by a respected member of the BIL community, or by an elected government official; photocopies of newspaper or journal articles describing or commending the school's programs, activities, or accomplishments.

One highly effective selling tool is to let others do the selling. Once a linkage program is in place, handouts that contain the views of satisfied BIL customers, written in their own words, can be remarkably convincing to prospective BIL participants. A list of BIL persons who can be contacted for further information can also be provided. The words of other BIL personnel, in person or in writing, often have substantial credibility.

Exhibit 5 shows the narrative content from a brochure used by Trident Technical College in Charleston, South Carolina, to introduce their Business and Industrial Training Programs. The actual brochure is a trifold. The cover shows a photograph of the school, lists the title of the program, and provides the school's name and address. Also, part of the brochure is a mailer that can be cut out and returned, pre-addressed and postpaid, to the college for additional information. The mailer allows the respondents to check whether they wish to receive additional information by mail or to be contacted by phone. Finally, the back of the brochure is slotted to allow the linker to slip in a business card.

The materials used by Columbus Technical Institute (CTI) in Columbus, Ohio, include a six-page linker handout introducing the school and its Business and Industry Division and a number of trifold brochures. The contents of the large handout include full-color photographs of training activities and a series of case studies describing customized training programs conducted by CTI for central Ohio businesses and industries. Exhibit 6 shows a section of and a photograph from the school's multipurpose *Bulletin* devoted to the Business and Industry Division.

Preparation Guidelines

There is one guideline that governs preparation of materials: keep them simple. Unless an institution has money to burn, materials need not be professionally prepared, multicolored masterpieces of promotion. If materials are too slick, people may wonder whether their tax dollars are being spent wisely. On the other hand, amateurish, typewritten, mimeographed brochures may not have the impact needed, and may not compete favorably with the promotional materials BIL persons are accustomed to receiving. Some middle ground of quality and expense is required.

If an institution has a graphics or printing capability, make use of the skills and equipment available to produce materials. And, regardless of who prepares materials, follow these few basic rules:

EXHIBIT 5

TRAINING BROCHURE

Customized training. Bringing a course of study into a company changes it from a canned presentation into a dynamic tool with immediate usefulness on the job. Customizing a program goes far beyond scheduling. It means trimming the topics that may not relate to an operational need and expanding those that do; combining the best parts of different programs; or even designing a completely new course.

Our courses include a variety of subjects in general studies, industrial electricity, electronics, mechanics and supervisory training. Classes are held at times and places convenient for your organization. Most courses can be taught in-plant, limited only by the availability of laboratory or computer facilities. Many industry programs are conducted several different times. Some are repeated quarterly, semi-annually or annually, and a few programs are repeated numerous times each year to meet the demand.

At Trident Tech in Charleston, South Carolina, quality in our classes is important. We constantly monitor and evaluate student performance, instructional procedures and course effectiveness to maintain our high-quality educational standards.

The most return for your training dollars. Many businesses and industries have similar concerns about training costs. You will find our costs per student are usually one-third of what other institutions charge. We offer affordable training, with quality guaranteed. With Trident Tech's industrial training programs you will get your money's worth and a lot more.

Qualified and experienced instructors. Capable and responsive instructors are essential to the success of any industry training program. Trident Technical College selects experienced instructors from industry, governmental agencies, and our own faculty. Our goal is to recruit the finest instructors and select only those who will provide the optimum solution to your training needs.

Industrial student support services. Industry students enjoy the same privileges and benefits as fulltime students attending the college. These benefits include the use of college libraries and access to campus recreational facilities (with a Trident Tech Student I.D.), as well as counseling and career planning assistance. Also students can use the libraries of other low county colleges, including The Citadel, The College of Charleston, Baptist College, and the Medical University of South Carolina, by presenting their Tech I.D.

Media support services are also available to industry instructors and students. Our media support capability includes 1/2-inch and 3/4-inch video recorders and playback units; 16mm film, overhead, slide, and filmstrip projectors; and tape recorders. Most of this equipment can be transported to off-campus locations.

Additional support services for students include learning labs with audiovisual equipment, cassette tape libraries, study rooms, and photocopying machines. The Learning Resources Staff provides support for all industry courses.

Continuing education credits. Trident Technical College awards Continuing Education Units (CEUs) to industry students. The CEU is used to measure learning acquired while participating in an industry training program. CEUs carry no credit toward college degrees or diploma programs. However, they provide a permanent record of participation in non-degree continuing education activities and are an indication of the knowledge and skills one acquires by attending such programs.

Certificates of achievement are also available from the college and are awarded when appropriate.

EXHIBIT 5—*Continued*

Summary. The Business and Industrial Training Programs at Trident Tech offer your company many training benefits. By exploring your needs and using our resources, we can develop a comprehensive training program that will enhance your company's growth and productivity.

Our industrial representative is looking forward to hearing from you and will be happy to set up an appointment to discuss your training needs.

SOURCE: Trident Technical College, n.d.

EXHIBIT 6

EXCERPT FROM *BULLETIN*

Business and Industry Division

Training Programs For Business, Industry And Government

As part of Columbus Technical Institute's commitment to meeting the needs of business, industry, and government, the college's Business and Industry Division provides training programs that are consistent with the developmental needs of the organization.

Columbus Tech is prepared to provide instruction and organize programs in most technical areas, and the Business and Industry Division can also design specific training programs that are custom-tailored to meet the ever-changing needs of all types of organizations.

With technology changing almost every field, employee training has become an ongoing and never ending requirement in the workplace. The training programs that are available provide employees with the background and knowledge necessary to upgrade their skills and result in increased productivity, successful performance on the job, and cost effectiveness.

For additional information on how Columbus Technical Institute can provide your organization with cost effective training programs contact: Business and Industry Division at (614) 227-5000.

On-Site Training Programs

All of CTI's training programs can be offered on-site, at an employers place of business. Programs can also be held on CTI's main campus, near downtown Columbus, at any of the college's suburban locations, or at any suitable location as arranged between the college and the sponsoring employer.

The following employers have taken advantage of these on-site training programs:

Ohio Bell
D.C.S.C.
AT & T
General Motors
Liebert Corporation
Columbus Auto Parts
Community Mutual Insurance Co.
City Of Columbus
Capitol City Products
Ashland Chemical
Capital Tool and Die
Worthington Industries

For additional information contact: Business and Industry Division at (614) 227-5000.

Types Of Training Programs

The Business and Industry Division at Columbus Technical Institute can provide your organization with training programs in the form of: college credit courses, workshops, seminars, and non-credit programs.

Listed below is a sample of the types of training programs that have been provided by the CTI Business and Industry Division:

Accounting
Air Conditioning Services
Basic Blueprint Reading
Business Writing
Computer Literacy
Cosmetology
Effective Speaking
Electrical Circuitry
Enterprise Training Food Services
Fire Protection
Industrial Hydraulics/Pneumatics
Introduction to CNC Machines
LOTUS 1-2-3
Principles of Banking
Private Security
Residential Sales Practices
Starting/Charging Systems (Automotive)
Statistical Quality Control
Supervisory Training
Technical Writing
Telephone Communications
Time Management

In addition to the training programs listed above, programs are also available in a wide variety of subject areas and can be custom-tailored to meet your specific needs. For additional information contact: Business and Industry Division at (614) 227-5000.

Organizations That Have Participated

Listed below are some of the organizations that have taken advantage of the training programs that are offered by the Business and Industry Division at Col bus Technical Institute:

Adria Laboratories, Inc.
AT&T Network Systems
Buckeye Federal
City of Columbus
Columbus Bar Association
Columbus Coated Fabrics
Columbus Industries
Columbus Metropolitan Housing
Community Mutual Insurance Cc
Defense Construction Supply Ce
Dollar Savings
Federal Highway Transportatic
Franklin County Children Ser
General Electric
General Motors
Industrial Fabricators
Lazarus
Kal-Kan
Litel Corporation
Nestle's Company
Ohio Bell Telephone
Ohio Department of H
Ohio Department of T
Ohio Medical Indemr
JCPenney Insurance
Physicians Ins. Co.
Pitney Bowes
Plaskolite
Printing Industry
Rehabilitation S
Rockwell Intern
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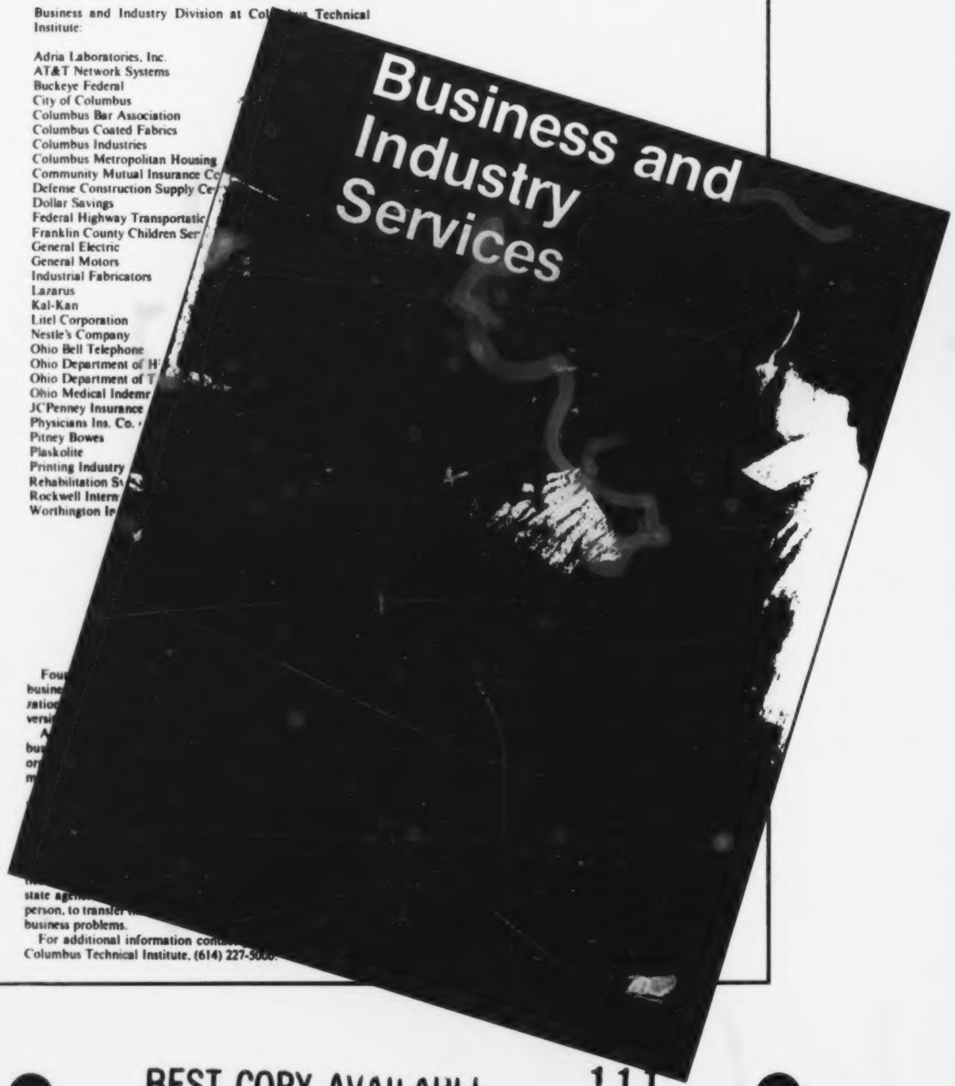
business problems.

For additional information con
Columbus Technical Institute, (614) 227-5000.



Business and Industry Services

SOURCE: Columbus Technical Institute, 1986.

BEST COPY AVAILABLE

- Reproduce materials using a photocopier or offset process for best results. Do not use mimeograph or ditto processes.

- Use paper stock of various colors (not white) and, if possible, use a sturdier weight of paper stock.

- Use photographs and illustrations to break up the text and produce visually attractive materials.

- Leave "white space." Don't try to fill every conceivable corner. Identify key points and present them briefly if you want the recipient to take the time to read the materials. With promotional materials, less is often more. If you can produce materials that get read and that can whet the appetite, the reader will call or write for more information.

- Typeset brochures and booklets. Use various type sizes to highlight headings and key points.

- Use a crisp, businesslike style of typeface if materials such as handouts are to be typewritten.

- Duplicate handouts on the school's letterhead, if it is clear and attractive.

- Make sure that all copy is clean, clear, and error-free.

- Lay out copy and illustrations so that the overall effect is visually attractive.

By following these rules, anyone should be able to produce professional materials with a minimum of expense.

Sample Statewide Materials

In two states--South Carolina and Ohio--the educational system and BIL training are an integral part of the state's economic development activities. Regional linkers have access to a wide variety of promotional materials. Some are designed to promote the area; some, to promote the training available.

One task of the linkers in these states is to attract business and industry to the state or to a region within the state. In South Carolina, linkers use a folder that proclaims "START UP IN THE BLACK in South Carolina" on the cover. The folder is a trifold design, which measures 8-1/2" x 11." This design allows the folder to be used to hold other handouts, but the folder can also stand alone as a promotional device. After the cover, its five other surfaces simply state the following information:

- A repeat of the title and four paragraphs (seven short sentences in all) explaining that South Carolina's Technical Education System can minimize the time and money required to recruit and train a work force for a new plant.

- "TEC's Industrial Report Card"--Five statements from plant managers praising the TEC System, with three color photographs showing workers on the job. (See exhibit 7)

- "We Take It by the Numbers"--Brief descriptions of the eight services the TEC System can provide.

- "Our Service Never Stops"--Key data concerning the institutions and staff available for provision of training, with a state map showing the location of the TEC institutions.

- An address and phone number to use to acquire further information and the system logo.

Booklets and brochures are also available to describe the advantages of life in a particular city or town. For example, the Akron (Ohio) Regional Development Board makes available a 32-page booklet (8-1/2" x 11") filled with photos and facts

EXHIBIT 7

PROMOTIONAL HANDOUT

TEC's Industrial Report Card

Cost Efficient Start-Up A+

Obviously, this program was one of the deciding criteria in site selection of our plant, but it's people like your representatives who put forth that extra professional and personal interest and effort that make the program a success. The outstanding job done for us provided the invaluable asset of trained individuals with which to start our plant, and to the S. C. Board for Technical and Comprehensive Education we are sincerely grateful.

Ronald S. Mensik
Plant Manager
Mueller Company
Clinton, S. C.

On behalf of the staff of the York plant I would like to commend you and your organization on an outstanding job in the development, coordination and implementation of what is undoubtedly one of the most thorough and comprehensive training programs I have ever had the privilege of being associated with.

Certainly you can be proud of your organization in knowing that it serves the industries and communities of South Carolina in such an effective and supportive manner.

Dennis R. Winkleman
Manager/Employee Relations
Rockwell International
York, S. C.

Low Employee Turnover A+

I wanted to express my appreciation of the State support given A. O. Smith in conducting our training classes, providing the materials, and getting us started here in McBee. The State can indeed be proud of the people on the State Board for Technical and Comprehensive Education and the mission they are accomplishing with us and other new industries. Their efforts have given us an excellent start-up and a solid foundation of excellent people on which to build.

In my opinion, your program is one of the best in the nation and certainly has made A. O. Smith feel at home here in South Carolina.

Thomas W. Robinson
Plant Manager
A. O. Smith
McBee, S. C.

Tailor-Made Training Programs A+

"The State Board for Technical & Comprehensive Education does not discriminate on the basis of race, color, sex, age, national origin, religion, or handicap."

EXHIBIT 7—*Continued*

Designing Training Programs A+

I want to extend to you and to the members of the South Carolina State Board for Technical and Comprehensive Education my sincere appreciation for the excellent support we have received in preemployment training for potential employees. This support, the costs borne entirely by the State of South Carolina, has been an integral part of the successes that we have achieved thus far in our operations at Alumax of South Carolina.

In my opinion, any company considering locating a facility in South Carolina should definitely be exposed to the numerous advantages offered by the South Carolina State Board for Technical Education. I will personally recommend South Carolina as the place to start a business.

Mike G. Kazeef
Vice President & General Manager
Alumax of South Carolina
Mt. Holly Plant
Goose Creek, S. C.

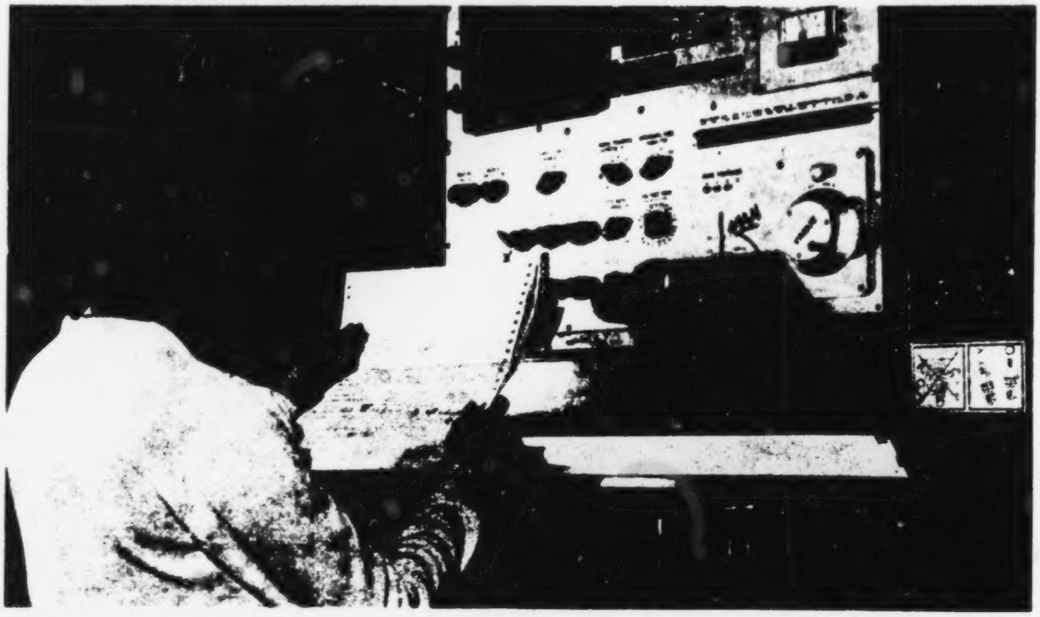
We are completing our fifth State-sponsored training program at TEC. The program was developed to prepare individuals for positions of assembly, fitting and wiring operations in the manufacture of Switchgear Equipment.

One measure of the success of the overall program is the rate of turnover of personnel experienced by Westinghouse, after hiring those individuals who did accept employment offers. Of the total of 72 people hired from the program thus far, only one was released.

We are grateful for the fine relationship that exists between your Division and our Corporation, and appreciate the effort and dedication of your personnel toward the successful achievement of our mutual goals.

B. J. Pleunik
Manager of Manufacturing
Westinghouse Electric Corporation
Greenwood, S. C.

Screening and Testing Applicants A+



SOURCE: South Carolina State Board for Technical and Comprehensive Education, n.d.

about Akron's history, housing, community facilities, health care, government, education, industry, cultural events, research, sports and recreation, communications, transportation, and development. Chambers of commerce also produce these types of booklets, brochures, and handouts.

Materials used by linkers in the Ohio consortia system include the following:

- Small, professionally produced booklets, available from the Ohio Department of Development. Exhibit 8 is an example of one of these, the OTTO (Ohio Technology Transfer Organization) booklet.

- An 18-page document from the Ohio Department of Economic and Community Development entitled "Starting & Operating a Small Business in Ohio." This is a guide to basic business information: legal structures, financial assistance, taxes, OSHA, training facilities, and so on.

- Handouts and other promotional materials describing a specific training consortium.

- School-specific materials such as program or institution brochures and course catalogs.

In addition, Ohio uses a multipurpose promotional packet. A large pocket folder contains a 32-page, full-color, spiral-bound booklet describing Ohio's resources. It also contains a series of 25 single sheet color handouts describing state work force training capabilities, assistance programs of various types, the state tax climate, and R&D centers and incentives. Some of these handouts are shown in exhibit 9. They can be used as part of the complete packet or as individual promotional items.

Other materials used by linkers in the South Carolina TEC System include--

- *Impact*, a journal published by the South Carolina State Board for Technical and Comprehensive Education, which "is distributed free of charge to inform the industrial and business communities and general public of developments in the state's technical education system;"

- a 6-page, typeset brochure, "History of Technical Education in South Carolina;"

- an 8-page color brochure "Planning for Profit, Progress, Productivity: South Carolina's Training Success Story," with introductory information about South Carolina's special schools, a list of schools, a map showing their locations, and lots of photographs;

- a 21-page handout including (1) numbers of persons, by company and county, trained by Special Schools, (2) a bar graph showing number of trainees per year, and (3) a state map showing numbers of industries served by TEC Special Schools by congressional district;

- a brochure describing the Special Schools (see exhibit 10);

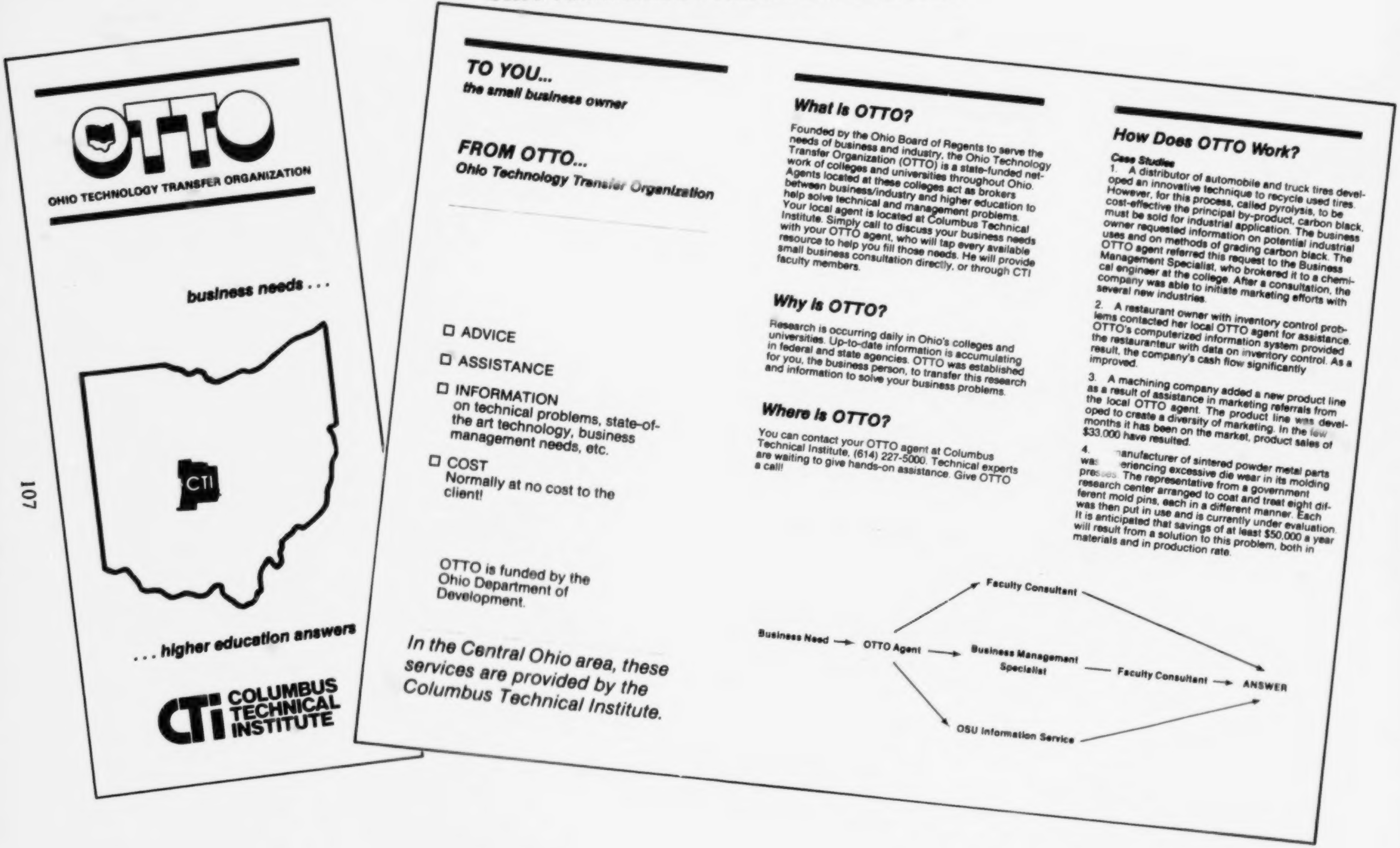
- a handout describing the benefits of the Special Schools to a company (see exhibit 11); and

- a handout listing the names, addresses, and phone numbers of the industrial service representatives--the linkers.

Note in the samples the use of letterheads, logos, and illustrations. Also note that not all materials are introductory or selling tools. Some, like the Ohio booklet on small businesses, are designed as a "free gift"--a helpful tool that can be used by BIL representatives in their own day-to-day activities. Production and use of materials like these can greatly enhance effectiveness in developing linkages.

EXHIBIT 8

OHIO TECHNOLOGY TRANSFER BROCHURE



OTTO

OHIO TECHNOLOGY TRANSFER ORGANIZATION

business needs . . .

. . . higher education answers

CTI COLUMBUS TECHNICAL INSTITUTE

TO YOU...

the small business owner

FROM OTTO...

Ohio Technology Transfer Organization

☐ ADVICE

☐ ASSISTANCE

☐ INFORMATION
on technical problems, state-of-the art technology, business management needs, etc.

☐ COST
Normally at no cost to the client!

OTTO is funded by the Ohio Department of Development.

In the Central Ohio area, these services are provided by the Columbus Technical Institute.

What Is OTTO?

Founded by the Ohio Board of Regents to serve the needs of business and industry, the Ohio Technology Transfer Organization (OTTO) is a state-funded network of colleges and universities throughout Ohio. Agents located at these colleges act as brokers between business/industry and higher education to help solve technical and management problems. Your local agent is located at Columbus Technical Institute. Simply call to discuss your business needs with your OTTO agent, who will tap every available resource to help you fill those needs. He will provide small business consultation directly, or through CTI faculty members.

Why Is OTTO?

Research is occurring daily in Ohio's colleges and universities. Up-to-date information is accumulating in federal and state agencies. OTTO was established for you, the business person, to transfer this research and information to solve your business problems.

Where Is OTTO?

You can contact your OTTO agent at Columbus Technical Institute, (614) 227-5000. Technical experts are waiting to give hands-on assistance. Give OTTO a call!

How Does OTTO Work?

Case Studies

1. A distributor of automobile and truck tires developed an innovative technique to recycle used tires. However, for this process, called pyrolysis, to be cost-effective the principal by-product, carbon black, must be sold for industrial application. The business owner requested information on potential industrial uses and on methods of grading carbon black. The OTTO agent referred this request to the Business Management Specialist, who brokered it to a chemical engineer at the college. After a consultation, the company was able to initiate marketing efforts with several new industries.

2. A restaurant owner with inventory control problems contacted her local OTTO agent for assistance. OTTO's computerized information system provided the restaurateur with data on inventory control. As a result, the company's cash flow significantly improved.

3. A machining company added a new product line as a result of assistance in marketing referrals from the local OTTO agent. The product line was developed to create a diversity of marketing. In the few months it has been on the market, product sales of $33,000 have resulted.

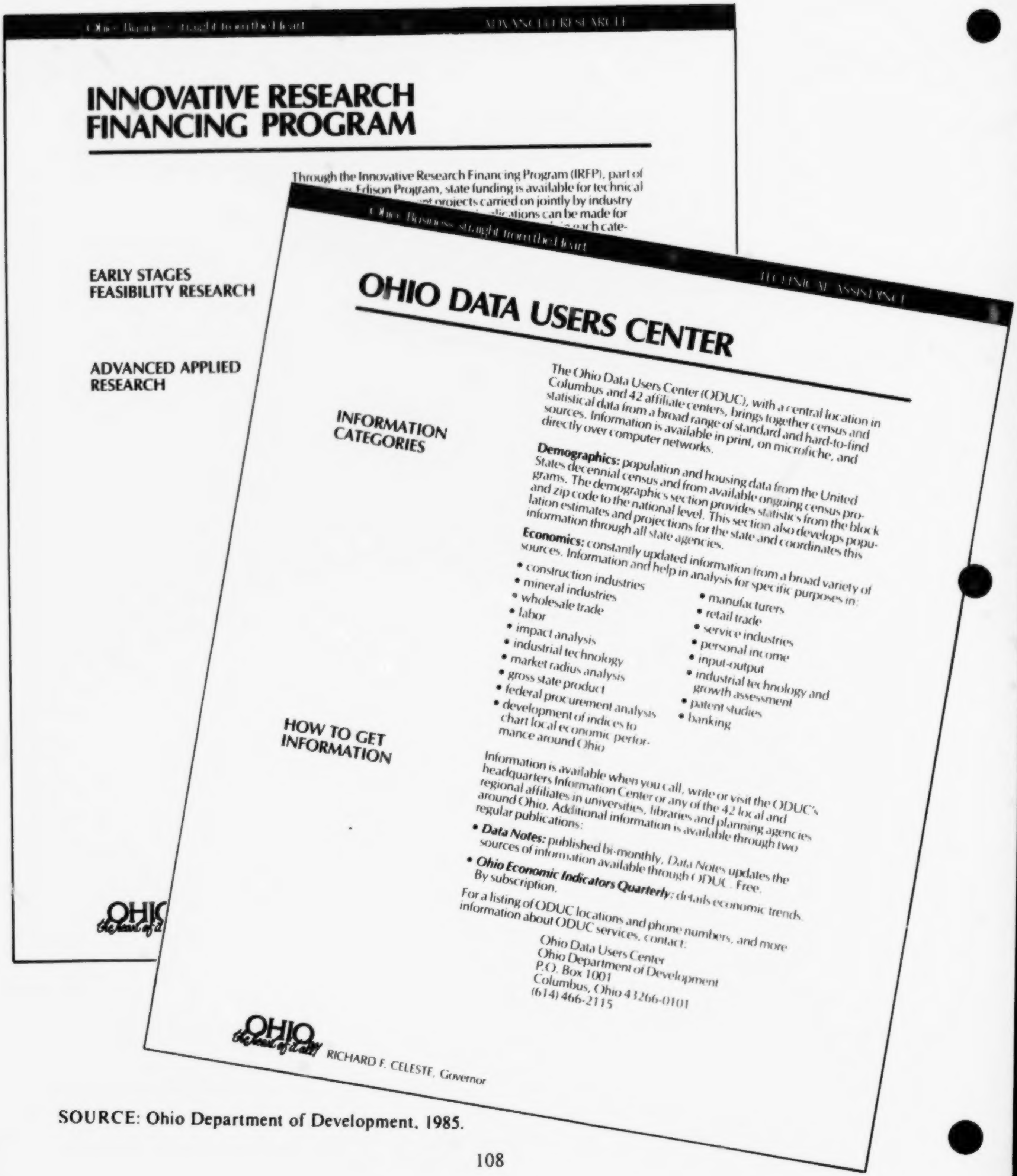
4. A manufacturer of sintered powder metal parts was experiencing excessive die wear in its molding presses. The representative from a government research center arranged to coat and treat eight different mold pins, each in a different manner. Each was then put in use and is currently under evaluation. It is anticipated that savings of at least $50,000 a year will result from a solution to this problem, both in materials and in production rate.

Business Need → OTTO Agent
Faculty Consultant
Business Management Specialist — Faculty Consultant → ANSWER
OSU Information Service

SOURCE: Columbus Technical Institute, n.d.

EXHIBIT 9

PROMOTIONAL HANDOUTS



Ohio Business — straight from the Heart

ADVANCED RESEARCH

INNOVATIVE RESEARCH FINANCING PROGRAM

Through the Innovative Research Financing Program (IRFP), part of
Edison Program, state funding is available for technical
projects carried on jointly by industry
applications can be made for
each cate-

EARLY STAGES FEASIBILITY RESEARCH

ADVANCED APPLIED RESEARCH

Ohio Business straight from the Heart

TECHNICAL ASSISTANCE

OHIO DATA USERS CENTER

INFORMATION CATEGORIES

The Ohio Data Users Center (ODUC), with a central location in Columbus and 42 affiliate centers, brings together census and statistical data from a broad range of standard and hard-to-find sources. Information is available in print, on microfiche, and directly over computer networks.

Demographics: population and housing data from the United States decennial census and from available ongoing census programs. The demographics section provides statistics from the block and zip code to the national level. This section also develops population estimates and projections for the state and coordinates this information through all state agencies.

Economics: constantly updated information from a broad variety of sources. Information and help in analysis for specific purposes in:

- construction industries
- mineral industries
- wholesale trade
- labor
- impact analysis
- industrial technology
- market radius analysis
- gross state product
- federal procurement analysis
- development of indices to chart local economic performance around Ohio
- manufacturers
- retail trade
- service industries
- personal income
- input-output
- industrial technology and growth assessment
- patent studies
- banking

HOW TO GET INFORMATION

Information is available when you call, write or visit the ODUC's headquarters Information Center or any of the 42 local and regional affiliates in universities, libraries and planning agencies around Ohio. Additional information is available through two regular publications:

- ***Data Notes:*** published bi-monthly, *Data Notes* updates the sources of information available through ODUC. Free.
- ***Ohio Economic Indicators Quarterly:*** details economic trends. By subscription.

For a listing of ODUC locations and phone numbers, and more information about ODUC services, contact:

Ohio Data Users Center
Ohio Department of Development
P.O. Box 1001
Columbus, Ohio 43266-0101
(614) 466-2115

RICHARD F. CELESTE, Governor

SOURCE: Ohio Department of Development, 1985.

EXHIBIT 10

BROCHURE INTRODUCING THE SPECIAL SCHOOLS

Special Schools

The South Carolina Technical Education System has been a model for the nation since 1961. In the 1960's, TEC's plan to help new and expanding plants "start-up in the black" attracted international attention.

More than 40 states and a number of foreign countries have sent representatives to study TEC's success in helping bring diversified, prestigious industries to South Carolina.

In meeting the needs of industry in South Carolina, TEC Industrial and Economic Development Division through Special Schools has provided short-term pre-employment training programs for more than 750 industries and 90,000 people.

These start-up training assistance programs are temporary and are especially designed to meet the specific needs of the new or expanding manufacturer. Special Schools are operated under the management of the Industrial and Economic Development Division on a statewide basis with the cooperation of the involved technical college.

Contact:
Industrial & Economic Development Division
S. C. State Board for Technical &
Comprehensive Education
111 Executive Center Drive
Columbia, S. C. 29210
I-20 and Bush River Road
803- 758-6926

5/85

South Carolina's Technical Colleges

Spartanburg
York
Greenville
Tri-County
Chesterfield-Marlboro
Florence-Darlington
Piedmont
Midlands
Sumter Area
Horry-Georgetown
Orangeburg-Calhoun
Williamsburg
Aiken
Denmark
Trident
Beaufort

Aiken Technical College
Post Office Drawer 696
Aiken, South Carolina 29801
Phone 593-9231

Beaufort Technical College
100 S. Ribaut Road – P.O. Box 1288
Beaufort, South Carolina 29902
Phone 524-3380

Chesterfield-Marlboro Technical College
Post Office Drawer 1007
Cheraw, South Carolina 29520
Phone 537-5286

Denmark Technical College
Post Office Box 327
Denmark, South Carolina 29042
Phone 793-3301

Florence-Darlington Technical College
Post Office Box 8000
Florence, South Carolina 29501
Phone 662-8151

Greenville Technical College
Post Office Box 5616, Station B
Greenville, South Carolina 29606
Phone 242-3170

Horry-Georgetown Technical College
Post Office Box 1966
Highway 501
Conway, South Carolina 29526
Phone 347-3186

Midlands Technical College
P.O. Box 2408
Columbia, South Carolina 29202
Phone 791-8281

Orangeburg-Calhoun Technical College
3250 St. Matthews Road, N.E.
Orangeburg, South Carolina 29115
Phone 536-0311

Piedmont Technical College
Post Office Drawer 1467
Greenwood, South Carolina 29646
Phone 223-8357

Spartanburg Technical College
Post Office Drawer 4386
Spartanburg, South Carolina 29305
Phone 576-5770

Sumter Area Technical College
506 North Guignard Drive
Sumter, South Carolina 29150
Phone 778-1961

Tri-County Technical College
Post Office Box 587
Pendleton, South Carolina 29670
Phone 646-8361

Trident Technical College
P. O. Box 10367
Charleston, South Carolina 29411
Phone 572-6111

Williamsburg Technical College
601 Lane Road
Kingstree, South Carolina 29556
Phone 354-7423

York Technical College
U.S. Highway By-Pass 21-A
Rock Hill, South Carolina 29730
Phone 324 3130

South Carolina's Special Schools

Published By:
The S. C. State Board for Technical and
Comprehensive Education

EXHIBIT 10—*Continued*

IN DEVELOPING SPECIAL SCHOOLS TRAINING, WE TAKE IT BY THE NUMBERS

1 Analyze

TEC's Special Schools Manager and Industrial Consultant meet with your people and observe your operation to fully understand your needs.

2 Plan

A complete plan for recruiting, selecting and training the necessary production workforce is prepared for your approval.

3 Schedule

TEC's Special Schools Manager prepares a leadtime schedule which pinpoints all recruiting, testing, selecting and training activities according to your requirements. The training time required for each job skill is scheduled so that all recruitment and training are completed according to your workforce requirements.

4 Prepare Training Materials

With cooperative assistance from your company, manuals are designed to teach the specialized skills demanded by your process. These are printed in our support center print shop. The support center also has capabilities for producing audio-visual training aids.

5 Recruit Instructors

Qualified instructors are hired from local industry, the TEC college faculty or from your company to give trainees the best in practical experience as well as classroom learning.

6 Recruit Trainees

We work very closely with the South Carolina Employment Security Commission (Job Service) to recruit, test and select applicants. Successful applicants attend training classes on their own time, without pay.

7 Prepare Training Site

A facility for training is located within the community of your plant site. Usually, programs are conducted in one of sixteen technical colleges of the South Carolina TEC System. If there is not a TEC college nearby, production machinery, other instructional equipment, and lighting from TEC's central warehouse can be quickly installed in a facility provided by the community.

8 Manage

Over twenty years of experience in serving industry provide us with the know-how to make all the elements come together for one purpose----- providing trained workers to get your plant into immediate high efficiency production.

"The State Board for Technical & Comprehensive Education does not discriminate on the basis of race, color, sex, age, national origin, religion, or handicap."

SOURCE: South Carolina State Board for Technical and Comprehensive Education. 1984.

EXHIBIT 11

HANDOUT DESCRIBING THE VALUE OF THE SPECIAL SCHOOLS

STATE BOARD FOR TECHNICAL AND COMPREHENSIVE EDUCATION
111 Executive Center Drive, Columbia, South Carolina 29210 Tel 758-6915

OUTLINE OF THE VALUE OF SPECIAL SCHOOLS TO A COMPANY

Our brochure, Planning for Profit, Progress, Productivity: outlines the pertinent aspects of a typical Special Schools program. A few observations about the value of such a program may be helpful.

As you may note from the brochure, the monetary contributions by the State for pre-employment programs to prepare South Carolinians for job opportunities are significant and meaningful to a company. For example, we provide (or have provided by others such as the community and Job Service):

(1) Trainee recruitment, preliminary screening and testing;

(2) Recruitment and payment of instructors;

(3) Site for training (unless done in the plant);

(4) Supplies and hand tools;

(5) Equipment (other than specialized equipment which is borrowed from the company);

(6) Use of our own staff in preparing the training site;

(7) Assistance in developing instructional materials including printing, photography and development of slide presentations, provision of audio-visual equipment for training; and

(8) Program management which includes quality of instruction; trainee progress; adequacy of equipment and instructional materials; and termination of trainees who are not meeting standards for retention.

In addition, the techniques of trainee selection, screening and retention are of untold value to a company. For example:

(1) As most trainees are already employed elsewhere, they are taking advantage of the training opportunity, without compensation in order to better themselves and their quality of life. In other words, they are motivated, an attribute that is certainly to be desired by a prospective employer.

G WILLIAM DUDLEY JR
EXECUTIVE DIRECTOR

THE STATE BOARD

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Timmonsville S C
Sixth Congressional District

H CARL GOODING
Allendale S C
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OSCAR E PRIOLEAU
Greenville S C
At-Large

CHARLIE G WILLIAMS
Columbia S C
Superintendent of Education
Ex-Officio

J MAC HOLLADAY
Columbia S C
State Development Board
Ex-Officio

(2) Trainees have an opportunity to ascertain whether or not they will enjoy the type work for which they are being trained and to assess their abilities to successfully perform prior to having to leave the security of their current employment. Those who are not desirous of continuing voluntarily terminate from training. As a consequence, a potential malcontent employee is avoided.

(3) Trainees who do not meet the criteria for retention in the training are dropped by TEC. Reasons for their termination may be such as failure to learn, excessive absenteeism, repetitive tardiness, being disruptive, and other similar reasons that are reflective of a poor risk as an employee.

(4) Only those trainees who have successfully demonstrated that they have acquired the prerequisite level of skill and knowledge for the particular tasks involved are certificated at the conclusion of the training.

In light of the foregoing, the company has the distinct advantages of motivated, interested, trained, and quality candidates for prospective employment. Labor relations are greatly enhanced, turnover is significantly reduced, initial quality and levels of productivity are higher, and cost of training is much less. These factors are the heart and essence of our programs.

Incidentally, our selection processes, including testing, are not contrary to EEOC standards, and affirmative action.

F. Earl Ellis, Sr.
Associate Executive Director
Division of Industrial and
Economic Development

R6-22-84

SOURCE: South Carolina State Board for Technical and Comprehensive Education, n.d.

Linkage Do's and Don'ts

It's time to build linkages having fulfilled the requirements of an administrative commitment and support, a qualified linker, appropriate marketing materials, and high quality vocational-technical programming. But, before taking action, it would be useful to consider some general linkage do's and don'ts suggested by successful linkers.

- *Review information about the organization/agency.* During initial information-gathering efforts, specific information about local BIL should be obtained. Before contacting a BIL organization, review information about it (e.g., its products, services, structure, facilities, personnel).

  The linker should also review what is known about any potential facilitators or barriers to the linkage effort. Has this organization been involved with schools extensively in the past, or in small but affirmative ways? If the organization has had prior positive experiences, present efforts will be facilitated.

  On the other hand, if the organization has had negative experiences with schools in the past or has never been involved with schools, the linking agent needs to know this in order to prepare for and approach the contact effectively. For example, experienced linkers have noted that some BIL people are wary of the "open palm" syndrome or are reluctant to talk to them because of what the linkers call the "CETA complex." These BIL persons have been approached by educators representing CETA and, for whatever reasons, the contact was not positive. The quality of the workers hired may have been poor, or the amount of documentation may have been perceived as excessive. The linker must get past these negative feelings before he or she can be successful.

  Real barriers must also be distinguished from perceived barriers and fabricated barriers. Real barriers can often be removed through careful planning and creative problem solving. Perceived barriers can often be removed simply by providing appropriate facts. Fabricated barriers are sometimes constructed to disguise real barriers or to provide a rationale for inactivity. "The Union won't let us do it" or "I'd like to do it, but it's not within my power," may be statements that serve to mask hidden objections. The right kind of probing is required to determine whether these kinds of statements are valid and do truly reflect the real objection or problem.

- *Identify and reach the most appropriate person(s) in the organization.* This is often not as easy as it sounds--but it may be the single most crucial step in the contact process. The linker should be wary of job titles. Persons in different organizations may have the same job title, but perform very different functions.

  Furthermore, the most appropriate person(s) to contact may vary. Ideally, the person to contact is the one who will be receptive and who has the power or ability to make decisions. This may be a person with a particular title (e.g., president, training director), or it may be an opinion leader--a person without much official power who, nevertheless, commands the respect of others to the extent that he or she can effect changes. Or, the first person the linker talks to may be the one whose ear he or she can get most easily and who can then arrange for contacts with others in authority within the organization. In some cases, more than one person will need to be contacted. For example, training may be a component of several separate units or divisions, and the training director of each unit or division may need to be contacted.

Organizational structure should be studied to learn both the formal chain of command and the informal power structure. Formal and informal personal contacts should be used to determine how the organization is structured and what the most appropriate or accessible entry point would be, given institutional objectives.

- *Develop a variety of approaches for use in making initial contacts and be able to select and use the most appropriate approach for each situation.* Organizations, situations, linkage purposes, and contact persons will vary. The most effective approach for each situation must be chosen. Experienced linkers suggest three basic approaches:

  - I have a service . . .

  - You have a need . . .

  - I'm just here to talk . . .

  Assume, for instance, that a linker meets with a harried executive in a large corporation who is not overly eager to get involved with the educational system, and he or she says, "I'm just here to talk." That contact is not likely to be very successful. On the other hand, that through-the-back-door, soft-sell approach may be just the right one in other circumstances. An effective linker must learn to read the situation and select the best approach to use.

  In addition, the most appropriate approach for dealing with the small business person, the entrepreneur, may need to be quite different from the approach used with the large corporation executive. Their questions, needs, and concerns are likely to be very different.

- *Be professional.* Chances for success will be enhanced if behavior is clearly professional. First, a linker should never just drop in to visit; an appointment should always be made first. Second, the prescribed chain of command should be followed. If a linker goes over someone's head, he or she may succeed initially only to find the efforts undermined or short-circuited later. Third, appropriate dress is called for. Over concern about and over reaction to dress may reflect a shallow outlook, but research shows that we all react strongly to outward appearances. It also shows that first impressions are long-lived. Part of one's credibility as a person aware of the needs and concerns of business and industry rests upon the perceptions of contacts. It's important to look the part.

  Fourth, it's important to remember that the information garnered during contacts should be treated as confidential. Fears of industrial espionage are well-founded. Competition is fierce. Trust is essential to any linkage relationship. A linker should never risk destroying or damaging hard-won relationships by discussing other contacts.

  Finally, women should be aware of the sexual biases that still exist. Over reaction should be avoided. Women also need to remain aware that many male executives are simply not used to dealing with females in professional roles. They may approach meetings somewhat awkwardly, seem to be unsure of how to relate, and so on. Maintaining professionalism over time will eliminate most problems.

- *Don't overload the first meeting.* The linking agent should not make the mistake of trying to "do it all" during the first meeting. It's best to plan to take only the first few steps during the first meeting to ensure that one will be invited back to continue the change process.

Materials describing the institution's linkage effort, the school, or whatever should be handed out at the meeting, not mailed in advance. Chances are, mailings won't get read. However, the person should not be inundated with materials. A few, well-developed materials will probably be read and can serve to whet appetites.

Part of the first meeting, of course, should be devoted to orally providing the BIL representative with appropriate information: orienting him or her to the school's goals and programs, describing the services that can be provided, or whatever. But it is critical that the BIL representative talk. What services does his or her organization need? What training needs have they felt? What concerns does he or she have about linkage with education?

Also, the linker needs to have identified in advance the types of questions he or she is likely to have. The linker should have the answers to those questions handy or know where to get the information. The linking agent must provide opportunities, and encouragement if necessary, to have those questions asked and answered.

- *Communicate skillfully.* Educational jargon should be avoided. The linker should not risk misunderstanding or alienation. The language of BIL should be used when appropriate.

The linker should be wary of overemphasis on educational credentials. Introducing oneself as "Dr. __" may be inappropriate. Some BIL people may see titles as barriers. First names or the conventional titles of courtesy are the best approach.

The linker should also be careful about the use of the term economic development when describing linkage goals. The word training is probably a more accurate description of purpose. State-level economic development people will be less likely to perceive an institution as competing with or interfering with statewide efforts.

Communication needs to be open. Inherent in open communication is honesty. The linking agent should never promise something that his or her institution may not be able to deliver. If a project cannot be brought in on time for the money that a BIL organization is willing to spend--a commitment should not be made. This may sound like rather obvious advice, but unfulfillable promises are sometimes made when there is strong pressure to create linkages and bring in dollars. If an organization does not meet the requirements of a particular contract, it is likely that word will spread, and other potential linkages will be adversely affected. An atmosphere of open and honest communication often results in the removal of barriers. If, for example, it is stated up front that certain training cannot be provided because of lack of access to the proper equipment, the linking institution might provide the needed access or funds to allow access. Effective training can be worth more to a particular company than is at first apparent.

A reputation for trust and reliability is a very valuable commodity.

- *Document efforts.* For the purposes of accountability, and future reference, it is critical that all linkage efforts be documented. BIL could be sold on linkage, but if the linker can't sell his or her employers on the value of their efforts, linking may not continue. This is especially crucial in that documentation may not be a designated requirement of the linker's job at the outset, but the quality and extent of documentation at the end of a given contract may well determine whether the school's linkage efforts are continued.

- *Develop and use linking skills.* The linker who is effective over the long term is the linker who continues to acquire appropriate knowledge and works to develop skills and attitudes related to the linking role. Listed below are reminders and pointers that all linkers should remain aware of.

  - The linker must remember to act as a neutral party, not as an advocate of either education or BIL.

  - The linker must be willing and able to function as a follower as well as a leader and be a catalyst.

  - The linker must work efficiently.

  - The linker must be patient and persistent.

  - The linker should be an active listener who doesn't tell BIL representatives what they need but rather helps them to determine what is needed. BIL involvement should be real and substantial.

  - The linker must be flexible.

  - The linker should strive to be a good manager.

  - The linker should not promise what education can't deliver, and not ask BIL to do the impossible (e.g., to hire co-op students for hazardous occupations, when the students do not meet the minimum age requirement).

- The linker should be a detail person, but one who doesn't lose sight of the "big picture."

Summary

Given proper planning and preparation, both initial and subsequent contacts with BIL should be successful and fruitful. Single contacts, although a sufficient goal at the outset, should be built on and expanded as the linkage effort continues. It is important to eventually build relationships not only with, but between BIL organizations.

One educational linker, for instance, holds monthly meetings of persons from the public and private sectors to promote and enhance awareness and cooperation. This linker offers the following guidelines for conducting such meetings:

- Select the right people to participate (i.e., the leaders and opinion leaders).

- Meet with each individual prior to the meeting to identify and head off any potential conflicts.

- Plan activities that allow each participant to leave each meeting with a sense of accomplishment--a feeling of time well spent.

- Rotate the meeting locations to ensure that each participant is aware of the "home conditions" of the others.

References

Columbus Technical Institute. Excerpt from *Bulletin*. Columbus, OH: Columbus Technical Institute, 1986.

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———. *Handout Describing the Value of the Special Schools*. Columbia: South Carolina State Board for Technical and Comprehensive Education, 1984.

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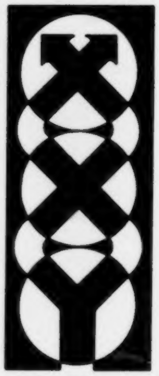

Part III
Taking Action

Chapter 7
Providing Customized Training

The creation of effective linkages depends upon many variables--skilled linkers, a responsive institution, solid planning. One of the most important of these many variables, in today's competive environment, is the *quality* of customized training and other special services provided to employers. This chapter details the various components that an institution must consider in order to offer a *quality* cutomized training program.

The material in this chapter has been excerpted and adapted from the following document:

> Norton, Robert E.; Harrington, Lois G.; and Spencer, Carol J. *Providing Customized Training Programs for BIL/GM*. Module LT-J-3. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), 1984.

Defining Customized Training

There are differing conceptions of customized training, but for the purposes of this discussion we can define it as follows:

> Customized training includes those training and training-related services that are or could be offered by a 2-year institution--in addition to regular programming--in response to specific business, industry, and labor needs.

The customized training programs discussed here are those designed to meet specific and immediate needs for (1) quickly staffing a new or expanded plant, (2) retraining current employees in response to changing technology, and/or (3) upgrading the skills of current employees so they can continue to grow and develop and so promotions can be made from within. Although many of these programs may be short-term--a training need is identified and filled and the program ends--it would be a mistake to place too much emphasis on that characteristic as a descriptor of customized training. Many programs developed in response to a short-range need become long-term programs once their effectiveness has been proven.

Customized training goes beyond the training of normal student populations and enters the realm of human resource development--of lifelong learning and retraining for those already in the work force and those who are unemployed but beyond what has been traditionally considered "school age." Although predictions for numbers of jobs and skill levels related to high-technology occupations in the future vary, most predictors seem to agree that the rapid changes inherent in high technology will require that workers be retrained periodically--perhaps every 3-10 years--to stay abreast. Vocational-technical education has a great deal to contribute to such an education and training effort.

BIL training needs can be reported by a number of sources: the vocational-technical institution, the economic development division of the city or state, BIL, or other government training programs.

Vocational-Technical Institutions

All effective vocational-technical programs are developed with a desire to prepare students for work. Consequently, through community surveys, linkage efforts with BIL trend analysis, and the study of other data, vocational educators try to determine what and where the jobs are and will be.

If, for example, projections indicate that workers will need certain basic computer skills, the institution could develop an appropriate course which could be taken by current students or by employees already on the job.

If a school has a staff member assigned to establishing linkages with BIL, the linker may identify training needs through his or her contacts. It may be that these needs will be those the BIL organization is already very much aware of. Or, based on his or her special expertise, the linker may identify a training need that the organization has not yet felt or that is not considered a high priority. In that case, the linker may try to develop the organization's awareness of and concern for meeting that need.

Economic (Industrial) Development Division

In areas where such a mechanism exists, officials from BIL can go to the economic development division for training assistance. A corporation moving in from out of state may need to be sure that there will be a trained work force awaiting its arrival. A local industry that is expanding its operations or installing state-of-the-art equipment is likely to have training needs. The economic development division staff then arranges to provide the training assistance required, often by linking the BIL agency with the appropriate educational institution.

BIL

Sometimes an organization will contact an educational institution directly to get help in meeting its training needs. For example, perhaps a plant president has heard a lot lately about the effectiveness of quality circles in improving productivity, product quality, and worker morale. The president wants all plant supervisors to be trained to implement quality circles. After some research, this president could conclude that the best and most cost-effective way to secure this training is to ask the local postsecondary school to design and conduct a training program.

Other Government Training Programs

Federally funded programs designed to counteract high unemployment rates and structural unemployment through job training may also be a source of identified needs. A Private Industry Council (PIC) in a given area, for example, might identify a training need that could best be met through programs offered by a local vocational-technical institution. If the institution has maintained regular and positive contacts with the PIC, the institution will be aware of these needs and can help respond to them.

In short, needs may be identified by the vocational-technical institution, or they may be brought to the institution from a number of outside sources. The quality of your linkage efforts with outside sources will affect how aware you are of the needs that exist, which in turn will affect your ability to participate in meeting those needs.

Meeting BIL Training Needs Effectively

There is sometimes a tendency to think that the primary way to meet the training needs of BIL is through the provision of training programs (e.g., a 6-week word processing course), but the staff at vocational-technical institutions possess myriad skills that might be utilized in meeting training needs.

In some cases, an industry may want an institution's help in *recruiting* and *screening* potential trainees. Educational institutions typically have staff with expertise in selecting, administering, and interpreting aptitude and achievement tests. Thus, it may be that a school can help an expanding or new industry first by helping them to identify those persons most likely to complete the training and succeed on the job.

Then again, it may be that help is needed in *conducting an occupational analysis*. Before any training is undertaken, by any educational institution or BIL organization, it is critical that the knowledge, skills, and attitudes required for the job be adequately identified.

Of course, it may be that the BIL agency may want a training program *designed, developed, and conducted* for them. However, it is equally possible that the agency or organization will wish to conduct the training using its own instructors and facilities and equipment. That does not mean that additional assistance is not required or desired. Assistance could be requested for the following objectives:

- Designing the program
- Developing training materials
- Training the trainers
- Providing technical assistance throughout the training program
- Developing evaluation instruments
- Evaluating trainee performance
- Evaluating program effectiveness

The types and extent of training services an institution provides will be determined by its capabilities, resources, and mission. However, it is important that the full range of possible services be explored in making any decisions. It is entirely conceivable that an educational institution could be extensively involved in helping BIL meet its training needs without ever having one of the school's instructors actually *teach* a course.

Assume for a minute that a local industry is planning to expand its operations, knows that training assistance will be needed, and has come to your institution for help. What characteristics determine whether your efforts will succeed or fail?

First and most critical is the ability to *listen*. One of the most common complaints one hears regarding education's efforts to serve BIL is that educators have their own ideas about what BIL needs and fail to *listen*. Programs designed without BIL input will not, at least in the long run, succeed. If a postsecondary institution has a set training "agenda" that it is determined to use regardless of the actual needs of BIL, it is unlikely that its services will be utilized--or at least not more than once.

Second, the institution and staff must be *capable of responding quickly*--providing service almost instantly or often completing the effort within a very short time. Typically, educational program changes materialize very slowly. An institution may take a year or longer to design and implement a new training program. The decision to commit scarce monetary and human resources to such an undertaking is not treated lightly.

This slow, cautious approach to program delivery will not work if BIL training needs are to be met. When a BIL organization comes to a school and says, "We will need 20-45 additional production welders as quickly as possible so production will not lapse and outstanding purchase orders can be filled on time," it cannot take a year to design, staff, and implement the program.

Related to speed of delivery is the need to *minimize both red-tape procedures and complicated decision-making channels*. Persons from BIL frequently list these kinds of concerns in explaining why they would rather offer their own training programs than contract with educational institutions. If every simple decision must travel through a maze of bureaucratic red tape, paperwork, sign-offs, and administrative procedures, then it is probable that the training deadlines will have passed before the training program is even in place.

Some system of streamlined, localized decision making is required if customized training is to be a reality. Ideally, the person working directly with BIL to provide training assistance should have broad decision-making powers so that he or she can do the job required.

The need for *flexibility* is another concern that must be addressed. If all courses are time-based (e.g., 8 weeks in length with a specific starting and stopping date), the curriculum set, the instructional delivery system fixed, and all courses tied to credit hours and FTE (full-time equivalent) funding formulas, the ability to provide customized training for BIL may be greatly restricted or even impossible. The location, scheduling, content, and structure of programs must be flexible in order to best serve the varying needs of BIL.

In fact, according to statements by numerous BIL representatives, training programs prepared for them will generally have the following characteristics:

- Multiple instructional methods
- Performance-oriented--sometimes competency-based in certain industries and larger companies
- Highly focused on specific job skills
- Usually short term
- Taught by persons with extensive occupation/industry experience
- Geographically accessible

An institution thus will need to ensure that mechanisms allowing for the needed flexibility are developed and operational. An institution's ability to respond quickly and individually and effectively to BIL training needs will determine how successful it will be in its efforts to develop and serve BIL clientele.

Planning Customized Training Programs

High-quality planning is essential to the success of any customized training effort. This has been stressed throughout Part II of this book and will be emphasized in Part III also. This stress is appropriate since the credibility of an institution as an effective provider of training rests largely on its ability to deliver quality products and services on a timely basis. To accomplish this, effective planning is critical. It is well to remember that the alternative to planning is random action.

A suggested planning and development guide for an industry start-up training program is shown in exhibit 12. A chart describing the steps used at Trident Technical College in South Carolina to provide a customized training program to satisfy an industry training need is shown in table 1.

EXHIBIT 12

START-UP TRAINING PROGRAM PLANNING AND DEVELOPMENT GUIDE

Phase I: Establishing Rapport

- Determine when to begin planning for the start-up training program.
- Assign a coordinator to the program.
- Identify the liaison contact with the industry.
- Define in writing the responsibilities of each leader of various segments of the start-up program.

Phase II: Identifying Training Objectives

- Identify the manpower requirements of the industry.
- Identify the date for plant start-up.
- Determine how many people will be enrolled in the training program.

Phase III: Determining Training Methods Means

- Determine if cross-training will be needed for key jobs.
- Determine how instructors, equipment, and supplies will be furnished for training.
- Acquire a training site.
- Determine if training aids will be necessary.
- Determine if regular students in other vocational-technical programs will be allowed to participate in the start-up training program.
- Determine who will recruit, test, screen, and refer prospective employees to the training program.

Phase IV: Conducting the Training

- Determine if a teacher-training program is needed for the project staff.
- Establish a routine of "positive discipline" in the training program.
- Conduct each training session from an agenda developed by the project staff.

Phase V: Evaluating the Project

- Set aside time periodically to examine the effectiveness of the training activities.
- Review the ratings and accomplishments of each trainee periodically with the prospective employer.
- Recognize the educational accomplishments of each graduate.
- Assist all graduates in finding employment.
- Enlist industry cooperation for a post-project on-the-job evaluation of employees.

NOTE: A start-up training program provides a pretrained work force for an industry that is locating in the state or for an expanding industry within the state.

SOURCE: Brooks, Herring, and Newby, 1979, pp. 53-59.

TABLE 1

STEPS IN PROVIDING CUSTOMIZED TRAINING PROGRAMS

Trident Technical College (TTC)

STEP	TTC	INDUSTRY	WEEK											
			1	2	3	4	5	6	7	8	9	10	11	12
1. Initial Meeting with Industry Representatives	Discuss Capabilities —Training Capabilities —Objectives —Goals	Discuss —Existing Training —Further Training Needs —Scheduling Alternatives —Target Audience	X											
2. Initial Course Planning	Discuss —Course Material Available —Presentation Options —Material Organization —Training Location Options —Support Requirements	Provide —Technical Details —Content Agreement —Location Agreement		X										
3. Formal Course Planning	Review —Techical Details —Course Proposal —Cost Analysis —Instructor Options —Textbook Options	Approve —Course Proposal —Cost Proposal —Text			X									
4. Instructor Selection	Acquire Resume of Potential Instructors —Arrange Interviews —Prepare Temporary Employment Agreement	—Review Resumes —Interview Instructors —Approve Instructor Selection				X								
5. Course Development (if required)	Prepare —Course Objectives —Performance Objectives —Course Syllabus —Tests	Provide —Subject Matter Specialist (if necessary) —Company Visitation					X	X	X	X	X			
6. Course Approval	—Review Complete Training Package —Provide Final Course Approval	Approve Training Plan Select Notify Students									X			
7. Implementation	Begin Training Contract	Implement Training Schedule										X		
8. Monitoring	—Critique Instructor —Identify and Correct Problems —Ensure Support Materials	—Supply Feedback —Determine Training —Determine Training Effectiveness											X	X

SOURCE: Trident Technical College, n.d.

An alternative planning format is shown in exhibit 13. Figure 2 provides a graphic description of the basic steps generally taken when providing customized training. These examples should provide the linker with an understanding for the overall planning process.

The common elements of any training plan include the following items:

- Defining the training effort
- Time frames
- Logistical concerns
- Legislative concerns
- Political context of the training effort

The rest of this chapter will deal with the specifics involved in planning customized training programs.

Defining the Training Effort

Before beginning any other task in the development process it is important to define the training effort so that all involved parties will understand the extent of the training tasks, their nature, and who is responsible for each. These tasks should be clearly delineated in detail, *on paper*, and the responsibility for each noted. Verbal agreements have a way of sometimes changing form during the developmental process. It could be disastrous for a training program if a certain piece of equipment, for example, was not available when needed.

The Time Element

Meeting deadlines is always a concern, no matter what the enterprise, but it is especially critical in terms of training program development for BIL clients. If, for example, an institution contracts with a company to train welders for a particular product line and a production schedule is well-established, failure to have trained employees on line, on time could result in serious financial losses to the company. Very large losses can occur if all elements of the line are not operational by a given deadline. For want of a nail. . . .

Estimating time requirements can be done in a number of ways. One effective way is to start at the deadline and plan backwards to determine how much lead time is required. If lead time is set and relatively short it may be necessary to use a different approach requiring adjustment and structuring of activities to stay within time limits. The development of timeline charts which can be distributed to everyone involved in the process is also useful. They provide a handy planning reference. An example of one such timeline chart is shown in figure 3.

Logistics

Given the overall task to be accomplished, there are a substantial number of logistical decisions that must be dealt with. Let's look at some of the key decisions to be made in this area of logistics.

Students

If the task involves actual training (rather than just a needs assessment or occupational analysis), then who will the students be--local persons seeking work or employees already on the job? What level of work is involved--unskilled, semi-skilled, skilled, production, nonproduction, supervisory, managerial, support (e.g., maintenance or secretarial)?

If the prospective trainees will be selected from a larger pool of employed or unemployed workers, how will the selection process be handled? Who will handle recruitment and advertising, and who will screen and select the trainees: the school or the BIL client? On what basis will the selections be made? Depending on the client and job level involved, selection

EXHIBIT 13

ACTION PLAN WORKSHEET

OBJECTIVE____

(Include: type of result, way of measuring, specific numerical target)

TARGET DATE COMPLETED	WHAT (Steps)	WHO	RESOURCES NEEDED		
			KIND OF RESOURCE REQUIRED	TO BE PROVIDED BY	NOT LATER THAN

SOURCE: Norton, Harrington, and Spencer, 1984, p. 31.

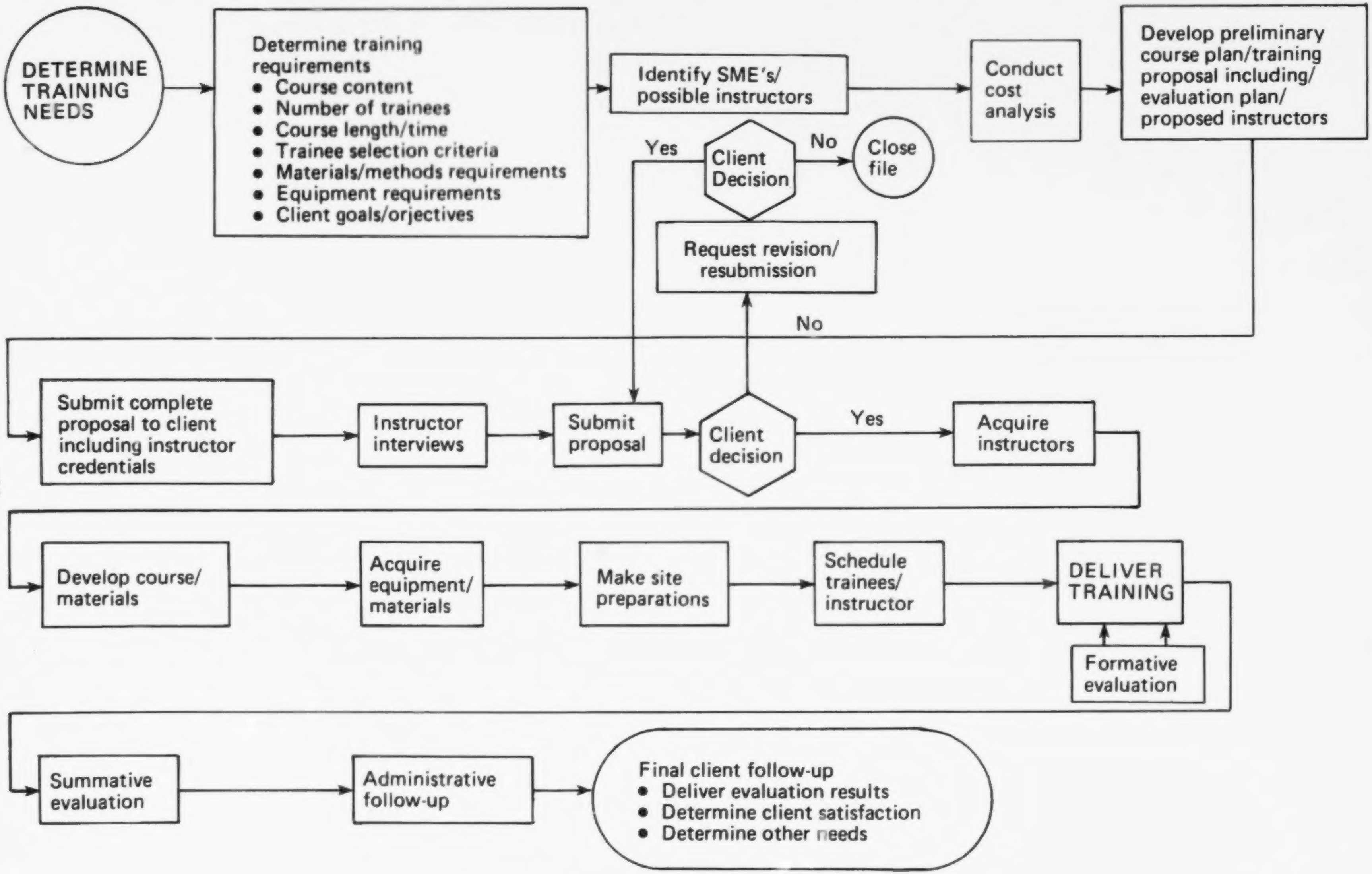
DETERMINE TRAINING NEEDS
Determine training requirements
• Course content
• Number of trainees
• Course length/time
• Trainee selection criteria
• Materials/methods requirements
• Equipment requirements
• Client goals/orjectives
Identify SME's/ possible instructors
Conduct cost analysis
Develop preliminary course plan/training proposal including/ evaluation plan/ proposed instructors
Yes
Client Decision
No
Close file
Request revision/ resubmission
No
Submit complete proposal to client including instructor credentials
Instructor interviews
Submit proposal
Client decision
Yes
Acquire instructors
Develop course/ materials
Acquire equipment/ materials
Make site preparations
Schedule trainees/ instructor
DELIVER TRAINING
Formative evaluation
Summative evaluation
Administrative follow-up
Final client follow-up
• Deliver evaluation results
• Determine client satisfaction
• Determine other needs

Figure 2. Steps in providing customized training

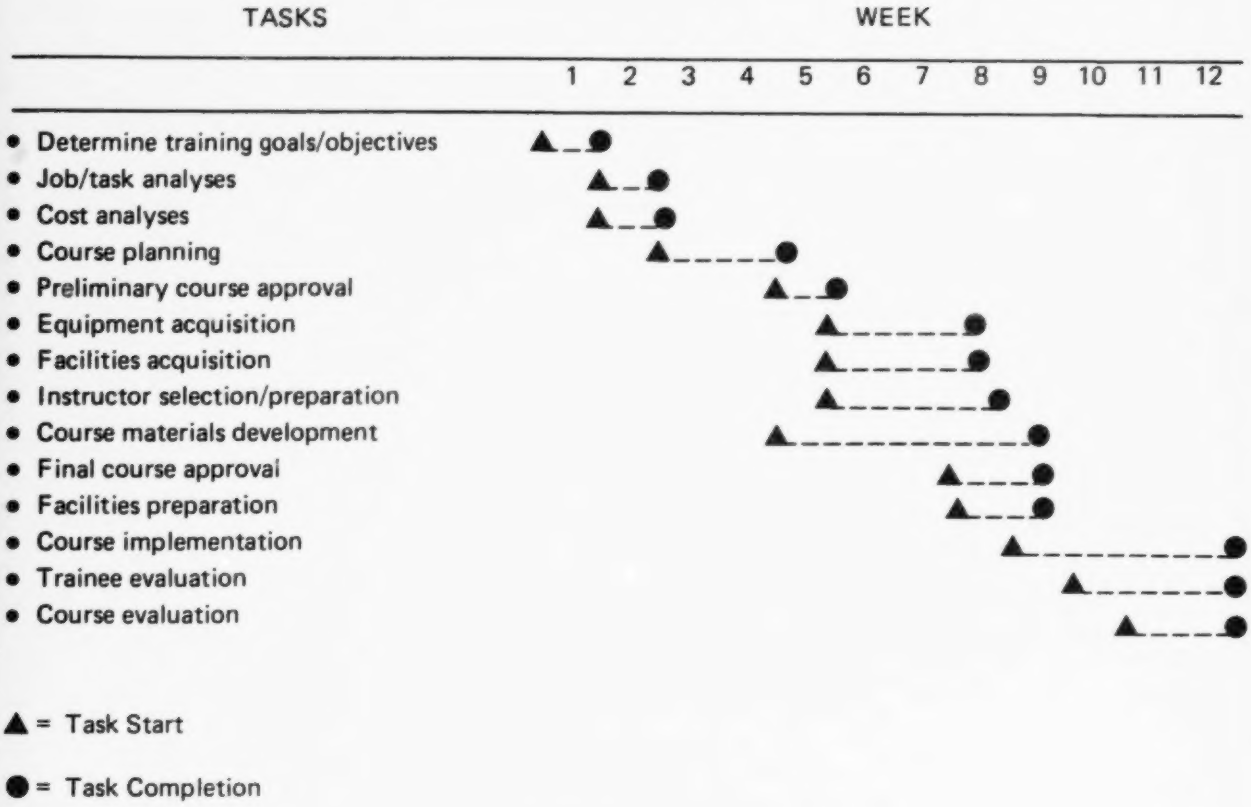

Figure 3. Project timeline

criteria could include items such as the following:

- High school diploma or equivalent
- Union status
- Manual dexterity
- Mechanical aptitude
- Physical strength
- Good eyesight
- Ability to work independently
- Ability to work at heights or in peculiar positions
- Ability to work in places with high noise levels
- Interest in working at times available (e.g., swing shift)
- Cooperativeness
- Ability to meet health requirements
- Basic reading, writing, and math skills
- Scores on aptitude tests

If the persons to be trained are not presently employed by the client, will the client guarantee to hire them upon successful completion of the training program? Will they be paid during the training program? If so, by whom: the client, monies available through government training funds such as Job Corps? What other funds are available to support the trainees? For example, will trainee travel be reimbursed, and by whom?

In some cases, of course, a BIL client will have made all decisions concerning the students to be enrolled and the types of financial support available. But whether the client holds this responsibility or whether the linker must make these determinations, the final decisions must be known in order to plan rationally.

Instructors

How many instructors are needed to conduct the training program? Will these instructors be employees of the client (e.g., industry trainers, supervisory staff) or of the school? If BIL instructors will be used, do they need to be trained? For example, supervisory staff may be occupationally competent but weak in teaching skills. If a specific new instructional approach or training package is to be used, BIL instructors may need to receive training accordingly.

If the school is to provide the instructors, will they be drawn from the present instructional staff or will part-time instructors be hired to conduct specific BIL training programs? Will any of these persons require preliminary training? What types of instructors can best serve BIL needs? It should be true, of course, that all vocational-technical instructors have strong and recent occupational experience. Unfortunately, however, some have more education than experience, and the experience of some was in the not-so-recent past. To meet BIL training requirements, use of instructors with extensive up-to-date occupational experience is probably crucial--if the instructors are to have credibility with the clients and trainees.

A caution: It is important not to hire disgruntled BIL persons as instructors. They may be available and may have the occupational skills needed, but they are not likely to convey to students the desired work attitudes and ethics an employer expects. If trainees are taught to be dissatisfied before they are even employed, their ultimate employment will probably be satisfactory to neither the trainees nor their employers.

A suggestion: It is helpful to develop a list of prospective instructors--either persons on staff or in the community--who have specific skills. With such a list available, the right persons can quickly be tapped to handle a particular training need. In compiling this list, persons recently retired from a BIL organization or currently employed but who could teach during nonwork hours should be considered. BIL clients or prospective clients would very likely provide assistance in compiling such a resource list.

Facilities

Where will the training program be held? It seems to be generally agreed that the training facilities need to be readily accessible to the students and need to contain the necessary equipment. In an individualized, competency-based program, space for a learning resource center would also be a must. If the school is located in proximity to the BIL client's facility, and has the needed space and equipment, the training could be offered at the school. Or, to have access to the needed machines, tools, equipment, and so on, the training could occur in the client's facility. Another option would be to use both facilities--to provide preemployment training or related instruction within the school and skill training on the job.

Still another option is to select an entirely separate facility. Perhaps, for example, a corporation has three separate plants, and the most conveniently located facility is one equidistant from all three, which can be rented and equipped to meet the corporation's training needs. In this later case, it would be necessary to determine all related costs and to specify who would be responsible--the school or the corporation--for meeting those costs and making all needed arrangements.

A fourth option is the use of a mobile unit. For example, in the Boston area, most schools do not have access to computers for student use. To give students a chance for hands-on experiences with an array of modern computer equipment, the Digital Equipment Corporation equipped a computer bus. Thus, a well-equipped mobile unit can take the training to the trainees. This type of facility could be equally useful in providing BIL training.

Scheduling can also affect the selection of facilities. The school may be conveniently located but if there isn't space available at the *times* required, then the school is not an appropriate choice. For example, if the trainees are employed, classes may need to be scheduled during their shift or after their shift, depending on the client's preferences. The facilities must be available at those times. If the client's facilities are to be used, similar concerns must be addressed. If they want training to occur during peak working hours, is adequate space available to provide training without interrupting the work flow? Can high-quality instruction occur in the midst of plant operation? In some cases, a BIL client will minimize this problem by arranging for vestibule training--training in a corridor outside the work area.

Two examples of devices for evaluating prospective training facilities are shown in exhibits 14 and 15. The form in exhibit 14 covers the general adequacy of training facilities. The form in exhibit 15 is related to safety requirements that must be met. If a facility to be used does need modifications, costs can be minimized by involving students in building trades programs or maintenance personnel from the BIL client in the modification effort. This assumes, of course, that the involvement of students is related to their program objectives.

One final note regarding facilities. If the training is to occur at the facilities of the BIL client, and if federal funds are supporting the training effort, it is essential that any products produced in the training program be kept separate from the products produced and sold by the client. The selling of items produced during training in such cases is prohibited.

EXHIBIT 14

APPRAISAL FORM - PROPOSED TRAINING SITE

Proposed Training Facility______________________________
Address____
Client Company___________________________________
Type of Training__________________________________
Date____________________
Appraisers______________________________________

Rating Scale: S = Satisfactory; US = Unsatisfactory; CBA = Can Be Altered

		S	US	CBA
1.	Adequate space is available for equipment and tools	☐	☐	☐
2.	Equipment may be spaced so that trainees are not subjected to undue safety hazards	☐	☐	☐
3.	Sufficient equipment and tools are presently located in the facility to handle the training needs	☐	☐	☐
4.	The facility is well lighted (both natural and artificial)	☐	☐	☐
5.	Ample supply of electrical power is available	☐	☐	☐
6.	Electrical outlets are ample	☐	☐	☐
7.	Present electrical wiring is satisfactory	☐	☐	☐
8.	Ventilation is appropriate for training	☐	☐	☐
9.	Adequate classroom space is available	☐	☐	☐
10.	Ample supply of utilities (water, gas, telephone service) is available	☐	☐	☐

Check one:

____Facility is suitable for training
____Facility is not suitable for training
____Facility may be suitable after minor alterations

Alterations needed:
1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________

SOURCE: *Adapting the Training Site to Training Needs*, n.d., pp. 17-19.

EXHIBIT 15

TRAINING SITE SAFETY CHECKLIST

(Based on OSHA Regulations)

Directions: Place a check mark in the apropriate box that best describes the safety conditions of the training station. Each item must be appropriately rated.

		Yes	No	N/A
1.	Lighting in work areas is adequate for jobs	☐	☐	☐
2.	A trained person is available to render first aid	☐	☐	☐
3.	First aid supplies approved by the health department are readily available	☐	☐	☐
4.	Safety meetings are scheduled and held at regular intervals	☐	☐	☐
5.	Slippery conditions on floors are eliminated as soon as possible	☐	☐	☐
6.	Aisles and passageways are kept clear	☐	☐	☐
7.	Storage areas are kept free of debris	☐	☐	☐
8.	Portable stepladders are in good condition	☐	☐	☐
9.	Personal protective equipment for ears, eyes, face, head, and extremities; protective clothing; and protective shields and barriers are provided, used, and maintained	☐	☐	☐
10.	Suitable fire extinguishing equipment is immediately available in the area and is maintained in a state of readiness for instant use	☐	☐	☐

NOTE: Additional rules may be added to this list from other standard rules of safety

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SOURCE: *Evaluating Safety Conditions at Training Sites*, n.d., p. 23.

Equipment and Supplies

What equipment and supplies are needed to support the training program? Are they presently available, or must they be purchased? Who will pay for equipment and supply costs? The provision of supplies should be a fairly straightforward task and one educators are accustomed to. It is in the area of ensuring that up-to-date equipment--consistent with that used by the BIL client--is available that problems may arise.

If the training is to be offered on the job, then tool and equipment problems should be minimal. The tools and equipment are already there. The only potential problems might involve the availability of tools and equipment in sufficient numbers at the times needed. It is important to be aware that voids cannot be filled using state-owned equipment if the equipment is used to produce marketable products.

If the training is not to be conducted in the school or the BIL facility, provision of tools and equipment can be a major concern. Or, if the training is to be offered in the school and if, as is likely, the vocational-technical institution does not have the most up-to-date tools and equipment, or the types of tools and equipment used by the client, or sufficient numbers of tools and equipment to support the training, what then? An institution or the state department could purchase the necessary items, but this is best done only when these materials can be used in the institution's regular programs. Purchasing sophisticated items that will be of use in only a few short-term training programs for BIL does not make sense in terms of economics. There are other options, however:

- Borrow the needed items from the BIL client
- Borrow them from another school in the district or area
- Borrow items through the U.S. Department of Defense's Tools for Schools program
- Rent or lease the items from the client, a school, or commercial firm
- Purchase the items at reduced cost from government surplus property agencies
- Arrange for a BIL client to donate the items to the school

By tapping all available sources, the necessary equipment and tools can generally be acquired with a minimum of cost.

Instructional Methods

The instructional methods to be used in the programs will affect costs, supplies and equipment needed, types of facilities required, number of instructors necessary, and so on. For example, an individualized, competency-based program might require a well-stocked resource center, with study carrels and a variety of print and audiovisual materials. More instructors might be needed to support the individualization. However, fewer tools and equipment might suffice since students are not all working on the same task at the same time.

To select the most appropriate instructional method or variety of methods for your client and its training needs, the characteristics, advantages, and disadvantages of each need to be considered, as shown in table 2.

Instructional Materials

Given the training content and instructional methods to be used, what instructional materials will be required, for example:

TABLE 2

INSTRUCTIONAL METHODS

INSTRUCTIONAL METHOD	ADVANTAGES	DISADVANTAGES
Competency-Based Education		
Competency-based education (CBE) is an approach to instruction in which the emphasis is upon students' developing and demonstrating specified competencies as measured by performance tests. Five essential elements characterize CBE: • Competencies to be achieved are carefully identified, verified, and made public in advance. • The criteria to be used in assessing achievement and the conditions under which achievement will be assessed are explicity stated and made public in advance. • The instructional program provides for the individual development and evaluation of each of the competencies specified. • Assessment of competency takes the students' knowledge and attitudes into account but requires actual performance of the competency as the primary source of evidence. • Students progress through the instructional program at their own rate by demonstrating the attainment of specified competencies. Implicit in these essential elements are the following desirable characteristics: • Instruction is individualized to the maximum extent possible. • Learning experiences are guided by frequent feedback. • Emphasis is on program exit requirements. • Instruction is individually paced. • Instruction is, to a considerable extent, field-centered. • Instruction is modularized and flexible.	Allows trainer close contact with the trainee. Allows trainee to work on set of competencies specific to his/her abilities and needs. Allows trainee to work at own pace. Trainee receives frequent feedback. Since trainee is evaluated on his/her ability to actually perform the skills involved, it is more likely that he/she can perform successfully on the job.	Initially, more time and effort may be required to develop the individualized learning packages needed. Requires instructor to manage multiple student learning activities (to serve as resource person). CBE program, which is time-flexible, may not fit into a structured time frame.

TABLE 2—*Continued*

INSTRUCTIONAL METHOD	ADVANTAGES	DISADVANTAGES
Personal Coaching		
Personal coaching is similar to individual job instruction in that it is a one-to-one situation, but different in that it is a longer-term affair. Coaching is considered to be more casual and less intensive than individual job instruction and is frequently used in development of subordinates to assume more responsibility. Whereas individual on-the-job instruction is aimed at teaching the basics of the job to the person and obtaining good performance, coaching is used more to smooth off the rough edges and deals with smaller elements of the job.	Allows trainer close contact with the employee. Allows support and reinforcement of newly learned skills. Allows the trainer to develop and maintain employee motivation. Allows the trainer to fine tune the employee's on-the-job performance. Allows the trainer to show a continuing interest in the progress of the employee. Allows the trainer to evaluate performance in one area before giving the employee additional tasks or responsibilities.	Time consuming. The time factor often prevents the manager/trainer from doing a good job of coaching many employees at once.
Small-Group Instruction		
Group instruction is quite useful where there are many employees to be trained in a short time, and where the jobs are NOT TOO COMPLEX. Group sessions lend themselves best to presentation of information as contrasted to the practice of skills. Often, group sessions are used to present theory or procedures from an informational viewpoint (there may be limited skills practice) and then the more complex skills are presented individually on the job. Instruction in small groups also allows members to actively participate in discussion.	Can handle groups of 8 to 10 participants. The group can provide a pool of information, suggestions, and problem solutions. This method invites active participation (and learning, of each individual. Group discussion can be more stimulating (and therefore hold the learner's interest more) than other forms of instruction. Members of the group tend to answer one another's questions (when they know the answers), thus simplifying the trainer's role.	Requires substantial leadership skill to keep the discussion on the right track and moving from item to item. The conference leader must have tact, ability to communicate well and to ask stimulating question. Shy or introverted people may not participate as much as you would like (there is a chance that someone will "hide" in the group.) Instruction is group-paced rather than individually-paced.
Individual On-the-Job Instruction		
Individual job instruction is a one-to-one situation where the trainer deals only with one trainee at a time. Intricate and complex jobs must almost always be taught individually and, in some cases, so must repetitive jobs where body motions timing is important. Even in cases where the trainee may have the basic skills, but where many questions are anticipated, individual instruction may prove useful. Individual instruction normally requires the advance preparation of a Job Breakdown and Learning Outline. A four-step training sequence is then followed, and repeated, until the trainee has obtained adequate skills to do the job.	Allows close contact and supervision of trainee. Training can be more concentrated and personalized to the individual's needs. Trainer has first-hand knowledge of employee's progress and performance, and can give feedback to the employee quickly. Employee not only *feels* he or she is getting special treatment, but actually *is* getting it. This aids the creation and maintenance of a favorable attitude.	Often time-consuming. Limited to only a few employees within a given time period. Requires just as much instructor preparation as other training methods. Trainer must be able to relate well to a wide variety of people so as to be effective with the individuals being trained.

TABLE 2—*Continued*

INSTRUCTIONAL METHOD	ADVANTAGES	DISADVANTAGES
Written Instructions		
Written instructions are used where the employee already knows the basics of the job and only needs some guidance in the decision-making process related to that job. Another area where written instructions might be used is in making minor changes in procedures or policies. And finally, written instructions can be used as references that the employee can use on an as-needed basis.	The materials need to be written only once. Can be duplicated and used by many different employees. Written instruction saves time for both the employee and manager IF the contents can be understood without interpretation. Training can take place at any time that the trainee is available for study. The training program can readily be distributed to many sites in many different locations.	There's a good possibility for misunderstanding the material. Unless extremely well-written, they are open to incorrect interpretation. Communication is one-way. There is no chance to ask question during study of the training materials. There is no immediate feedback to the manager/trainer about the employee's understanding or lack of understanding. The trainee is given no feedback or reinforcement to assure that he/she has learned the material as expected. By the time errors show up in the work, the employee may have already learned improper work habits, making correction more difficult. Preparation of well-written instructions is difficult and time-consuming for the trainer. Lacks reinforcement and involvement. Manager/trainer may miss the opportunity to build confidence, motivation, and provide encouragement.

SOURCE: Hindes, n.d.

- Textbooks
- Workbooks
- Modules
- Technical manuals
- Overhead transparencies
- Slide/tapes
- Films
- Videotapes
- Computerized instructional materials

Are these materials available in-house, commercially, or through curriculum consortia? If not, how will they be developed, and by whom? How much development time will be needed? And who will support any costs involved?

Student Evaluation

One of the ways in which the BIL client can judge whether or not a program has been successful and that the trainees are well trained is through the results of an evaluation system. Well-written, reliable, and valid tests to measure knowledge will be needed. Performance tests to measure process and product skills must be available. Are they presently available as part of the school's training programs? Are they included in the modules to be used? Must they be developed? And again, if so, by whom will they be developed, how much time will be needed, and who will support the costs?

Legislation

Most educators are accustomed to being responsive to the legislation specific to educational programs. The same concerns about equal opportunity and nondiscrimination that apply in educational settings must also be part of any BIL services that your institution may provide. These concerns are particularly important if an institution becomes involved in screening/selection/recruiting activities.

Involvement in BIL training may also require awareness of other labor laws. For example, if trainees are being paid a salary during training, minimum wage laws must be adhered to. There must also not be any differentiation in pay based upon illegal factors such as sex.

If trainees are being trained on the job, child labor laws (with standards governing age requirements, work permits, hours of work, working conditions, and so on) may come into play.

If the occupation involved is one that is legally defined as a hazardous occupation, the institution must ensure that trainees meet the minimum age requirements. The training facility must also be in compliance with Occupational Safety and Health Administration (OSHA) regulations. Also of concern are health insurance coverage (such as Workers' Compensation) for trainees and liability insurance for instructors.

If training is supported by funds available through specific federal legislation such as the Job Training Partnership Act (JTPA), then it is important that all applicable provisions of the act are complied with.

Attention to these legislated requirements is essential if an institution's training efforts are to be legal and equitable.

Political Context

Although the political context is being presented as the last topic in the planning section, it should be a key concern throughout all steps of the planning--and implementation--process. Concern for political context means that administrators must not lose sight of the institution as part of the *community*.

At the very least, various segments of that community should be kept informed about BIL activities. People involved in local economic development activities, for example, need to know about the contributions of institutions in their area. Chamber of commerce personnel should be aware of such education-BIL partnerships. Informing community organizations whose memberships include persons from BIL can be an excellent way to promote additional partnerships.

At best, appropriate persons from the community should be involved in planning efforts. Their input can be helpful, their support may be crucial, and they may be able to assist in solving logistical problems. Can union officials, for example, help in identifying qualified instructors? Does another school in the area have equipment that can be borrowed or leased? Are there other related training programs operating locally (e.g., community-based organizations or Job Corps) with which efforts should be coordinated to prevent overlap and to share information? Can state-level personnel, board members, or lobbyists help get approval for needed changes in curriculum, scheduling, grading, and so on?

The institution's provision of BIL training should be just one part of overall community involvement and linkage strategy. To ensure that it contributes to overall goals, people in the community at large need to be kept informed and involved. If BIL training is treated as a very private arrangement, opportunities to create additional linkages, promote vocational programming, secure needed resources, and develop increased support may be missed. In addition, "spreading the word" in this way (without, of course, infringing on proprietary information) is a way to say thanks to BIL clients for their involvement and support.

Developing an Agreement or Contract

Once plans have been developed for providing the BIL training assistance, it is necessary to formalize the terms of that plan in writing. This may initially take the form of a proposal (see exhibit 16, but ultimately, after the proposal has been accepted or oral agreement has been reached, it should take the form of a legal agreement or contract. And officials representing both parties--the institution and the client--need to authorize that agreement or contract by signing it.

This is not simply a matter of protection against later criticisms--it is a way of defining the *limits* of what each party will be expected to do so that there are no surprises down the road. The form should include objectives to be met and should specify items such as the following:

- Who will be trained? How many trainees?
- When will training occur?
- Where will training occur?
- How long will the program be? Number of hours? Length of training period? Dates? Times?
- Who will conduct the program? Numbers of instructors? Qualifications?
- For what aspects of the program is the BIL client responsible? For what aspects is the school responsible?
- What costs are involved and how and by whom will these be met?

As indicated by part B of exhibit 16, the agreement or contract frequently includes a budget. Exhibit 17 shows a training agreement form suggested for use by industry service providers in Mississippi.

Agreements with the BIL client are not the only legal documents required. As

EXHIBIT 16

TRAINING PLAN (PROPOSAL)

NARRATIVE DESCRIPTION
Part A

Project No. __________

1.0 GENERAL INFORMATION AND AGREEMENTS

1.1 ____
Name and Address of Agency to Provide Immediate Supervision to this Project

1.2 ____
Name and Address of Training Facility

1.3 ____
Name of Project (Occupational Title) D.O.T. Number

1.4 Number to Be Enrolled in This Project ______ Number of Slots __________

List Number to Be Enrolled by County:

________________ ________________ ________________
________________ ________________ ________________

1.5 Length of Training

a. Starting Date__________ Ending Date________________
b. Total Number of Training Weeks __________
c. Number of Hours Per Week __________
d. Average Number of Weeks Per Trainee __________
e. Estimated Total Hours of Training Per Trainee __________
f. Number of Sections Per Project __________
g. Training Is to Be Conducted from_____a.m./p.m. until_____a.m. p.m.
h. Schedule of School Closures (e.g., legal holidays)

1.6 Comments (if any)

2.0 COURSE INFORMATION

2.1 Occupational education objectives (attach as an appendix)

NOTE: The form shown in this sample was part of a proposal outlining the program to be offered, and it also included a narrative description of the program; a list of equipment needs and costs, a statement of the course objective; an outline of the course content and competencies; a budget summary; and facility rental agreements, including the terms and conditions of the lease (e.g., responsibility for liability and maintenance).

2.2 Topical outline of major units of instruction and approximate clock hours devoted to each:

2.3 Daily training schedule for one week:

2.4 Records to be kept on progress and achievement of students (e.g., attendance, progress, performance, skill levels):

SUMMARY OF COST OF TRAINING
Part B

3.0 FACILITY COSTS Total________

3.1 Facility Charges ____________

a. Type of Facility:_____Public
_____Private

b. _____sq. ft. for_____months
@_____per sq. ft. per year

c. Description of Space:

3.2 Utilities ____________

a. Utilities (not for use in projects without students):

Cost per student contact hour_____,
multiplied by number of slots_____,
multiplied by average number of
scheduled hours per month_____,
multiplied by number of months in
project_____, equals:_____.

b. Telephone: ____________

Number of telephone instruments to be
used_____, multiplied by estimated
monthly cost per instrument_____,
plus estimated monthly long distance
charges_____, multiplied by number of
months in the project_____,
equals:_____.

EXHIBIT 16—*Continued*

3.3 Minor Remodeling (Public Facilities Only) ________

Description of Work:

4.0 ADMINISTRATIVE SALARIES

Total ________

4.1 Administration ________

No. Weeks		Hours Per Week		Hourly Salary Rate		Total
	×		×		=	

4.2 Clerical and Accounting Personnel ________

No. Weeks		Hours Per Week		Hourly Salary Rate		Total
	×		×		=	
	×		×		=	
	×		×		=	
	×		×		=	

4.3 Custodial Personnel ________

No. Weeks		Hours Per Week		Hourly Salary Rate		Total
	×		×		=	
	×		×		=	

4.4 Other Administrative Costs ________

a. Custodial Supplies: ________
Lot of supplies such as
soap, detergents, mops,
brooms, etc.

b. Costs Not Elsewhere Classified: ________
Administrative costs such as
stationery, stamps, office
supplies, etc.

4.5 Employers Share of Employee Benefits ________

a. (4.1 - 4.3) Salaries
________ × .1460 = $________

EXHIBIT 16—*Continued*

b. (5.1 - 5.4) Salaries
________ × .1460 = $________
NOTE: Includes social security, state retirement, worker's compensation, and unemployment compensation.

c. Health & Liability Insurance $________
______ employees employed 20 hours per week of more for ______ months × 48.02 per month.

5.0 INSTRUCTIONAL AND EDUCATIONAL COUNSELING SALARIES

Total ________

5.1 Coordinator/Supervisor Salaries ____________

No. Weeks		Hours Per Week		Hourly Salary Rate		Total
________	×	________	×	________	=	______
________	×	________	×	________	=	______
________	×	________	×	________	=	______

5.2 Guidance Counselor Salaries ____________

No. Weeks		Hours Per Week		Hourly Salary Rate		Total
________	×	________	×	________	=	______
________	×	________	×	________	=	______
________	×	________	×	________	=	______

5.3 Instructor Salaries ____________

No. Weeks		Hours Classroom Instruction Per Week		Hourly Salary Rate		Total
________	×	________	×	________		______
________	×	________	×	________	=	______
________	×	________	×	________	=	______

NOTE: Rates shown are only average rates and are to be used as a salary guide. Rates may be exceeded, according to the employee's accreditation, ability, etc., provided that the line item total is not exceeded.

EXHIBIT 16—*Continued*

5.4 Other Instructional Personnel ____________

Describe position ______________________________

____

No. Weeks		Hours Classroom Instruction Per Week		Hourly Salary Rate		Total
________	×	________	×	________	=	________
________	×	________	×	________	=	________
________	×	________	×	________	=	________

5.5 Travel ____________

a. ________ miles per month × ________ per mile × ______ months = ________

b. ________ days per diem × ______ per day = ________

6.0 EQUIPMENT (Use attachments if more space needed) Total ________

6.1 Major Instructional Equipment (List) ____________

- a. Equipment to be purchased at a cost of $1,000 or more
- b. Equipment to be purchased at a cost of $50 to $999
- c. Installation of equipment

6.2 Repair and Servicing of Equipment ____________

6.3 Minor Equipment and Tools to Be Purchased (Unit cost of less than $50)(List) ____________

6.4 Rental of Instructional Equipment (List) ____________

7.0 INSTRUCTIONAL MATERIALS AND SUPPLIES Total ________

7.1 Audiovisual Aids (to be purchased or rented) ____________

7.2 Textbooks and Reference Books ____________

7.3 Workbooks and Paperback Books ____________

7.4 Supplies and Materials ____________

EXHIBIT 16—*Continued*

8. OTHER COSTS NOT ELSEWHERE CLASSIFIED Total ________

8.1 Tuition ________

8.2 Trainee Transportation ________

8.3 Other Miscellaneous Costs ________

a. Student Liability Insurance ________
b. Malpractice Insurance ________
c. Other (Explain) ________

9.0 TOTAL COSTS ________

10.0 COST PER TRAINEE ________

11.0 COST PER TRAINEE HOUR ________

SOURCE: Trident Technical College. n.d.

EXHIBIT 17

TRAINING AGREEMENT FORM

PURPOSE: To provide a written document of mutual understanding on the part of industry and the training institution.

AGREEMENT: It is mutually agreed between the ______________________ training institution and ______________________ industry located at ______________________, that:

I. The training institution (public school named herein) agrees:

A. To pay salaries for instructional personnel not to exceed _____ per hour.

B. To _____ Not to _____ secure qualified personnel to conduct industrial training.

C. To secure a trainee affidavit from each student enrolled, stating his her position in this training program. (Affidavit will be collected and filed by the training institution.)

D. To provide administrative supervision (institution employed) of instructional program.

E. To _____ Not to _____ furnish some _____ any _____ all _____ supplies for this training project. (NOTE: Specify.)

F. To _____ Not to _____ furnish some _____ any _____ all _____ equipment for this training project. (NOTE: Specify.)

G. To _____ Not to _____ furnish facilities for this training project.

H. To _____ Not to _____ advertise this training program.

I. To _____ Not to _____ renovate facilities for this training project.

J. To work jointly with the industry and employment agency in promotion of the training program and recruitment of suitable students.

K. To provide a top flight instructional program for the trainees.

L. To furnish the participating industry with rating sheets showing the trainees' progress, performance and personal adjustment.

M. To _____ Not to _____ furnish utilities for the training program.

N. To _____ Not to _____ install special machinery in training institution building.

O. To _____ Not to _____ place state and local equipment in in-plant training program. (NOTE: Specify and secure equipment agreement.)

P. To _____ Not to _____ provide a course curriculum for this project.

Q. To _____ Not to _____ develop a special course curriculum for this project.

EXHIBIT 17—*Continued*

II. The industry (named herein) agrees:

A. To______Not to______furnish some______ any______ all______supplies for this training project. (NOTE: Specify.)

B. To______Not to______furnish some______ any______ all______equipment for this training project. (NOTE: Specify.)

C. To______Not to______furnish facilities for this training project. (NOTE: Specify.)

D. To permit and aid the training institution to conduct a follow-up study of individuals trained (October following FY trained).

E. To ensure that no product made during the training program will be entered into channels of commerce.

G. To assist in securing instructors for this training project.

H. To pay difference in salary necessary to secure qualified instructors. (NOTE: Specify.)

I. To provide for transportation of special equipment to be used in training.

J. To purchase any unused supplies at cost prices.

K. To provide equipment layout, suggested floor plan, and utility requirements.

L. To provide a qualified consultant.

M. To______Not to______provide instructors for the training project.

N. To permit the training institution and vocational division to use this program in advertising campaigns.

O. To give the training institution a letter stating the success or failure of this training program.

P. To provide the necessary paperwork for reimbursement, etc., required by the training institution.

Training Institution
Date:______________________________ By:______________________________

Industry
Date:______________________________ By:______________________________

SOURCE: *Developing Training Agreements*, n.d., pp. 23, 25, 27.

mentioned in the note in exhibit 16, leases may be required. Purchase orders for equipment and supplies and instructional materials must be completed, approved, and processed.

Legal staff at the school or legal consultants should be involved, as needed, in the process of developing and executing any legal documents required. By documenting the terms of the training effort and securing signatures to authorize the terms--all with adequate legal advice--it can be ensured that program plans are clearly stipulated, that all parties agree to the terms of the plan, and that all parties know what they are accountable for. Evaluation of the program's success will ultimately be easier, too, if the objectives to be achieved are carefully spelled out in advance.

Tips on Conducting a Needs Assessment

The term "training need assessment" enjoys widespread use, both within educational institutions and BIL organizations. However, the term is a misnomer in a sense because it implies that there *are* organizational problems that can be solved by training solutions. When one is conducting a *training* needs assessment, there is a tendency to approach the assessment as though one had a bag of solutions and was going in search of a problem. There is also often strong pressure from line managers and others in some organizations to "throw" training at problems without really attempting to determine their root causes.

It would behoove the linking agent to determine, as best as he or she can, if training is really the most appropriate solution to a given organizational problem. It could very well be that a *nontraining* solution is called for. Figure 4 illustrates the differences between problems that can be solved by training solutions and those that are better solved by nontraining solutions. The implications of using training to solve a non-training problem could be far-reaching in the long term. Suppose, for example, that a certain BIL organization is experiencing unacceptable turnover in a particular division. The BIL human resources manager approaches a local community college with a request for a course in motivating employees, since a number of line managers concluded that this type of course would serve to reduce turnover. If the linking agent moves too quickly and arranges for the course without further investigation, the outcomes could be less than desirable. It could be that the problem is not a knowledge, skill, or attitude discrepancy in supervisors, but rather, is related to inadequate compensation. In this case, the motivation course is unlikely to affect turnover. The result will be decreased credibility for the institution--the training being viewed as ineffectual.

There is also, of course, the possibility of providing the *wrong* training for a problem amenable to a training solution.

The linker cannot, of course, spend a great deal of time and effort attempting to pinpoint the causes of organizational problems. But neither should he or she leap to provide customized training without *some* consideration of the problem (or the perceived problem) in some depth.

Thus, the question becomes, how does a "linker" help a BIL client identify training needs?

Exhibit 18 lists some sources of data that can help determine training needs. Determining needs in a broad sense can be accomplished by maintaining a wide network of informal contacts. In a more narrow sense, needs can be determined by using different types of surveys and structured or unstructured formal interviews. Exhibit 19 provides an example of a proposal form that a BIL agency could be asked to use to begin the need determination process.

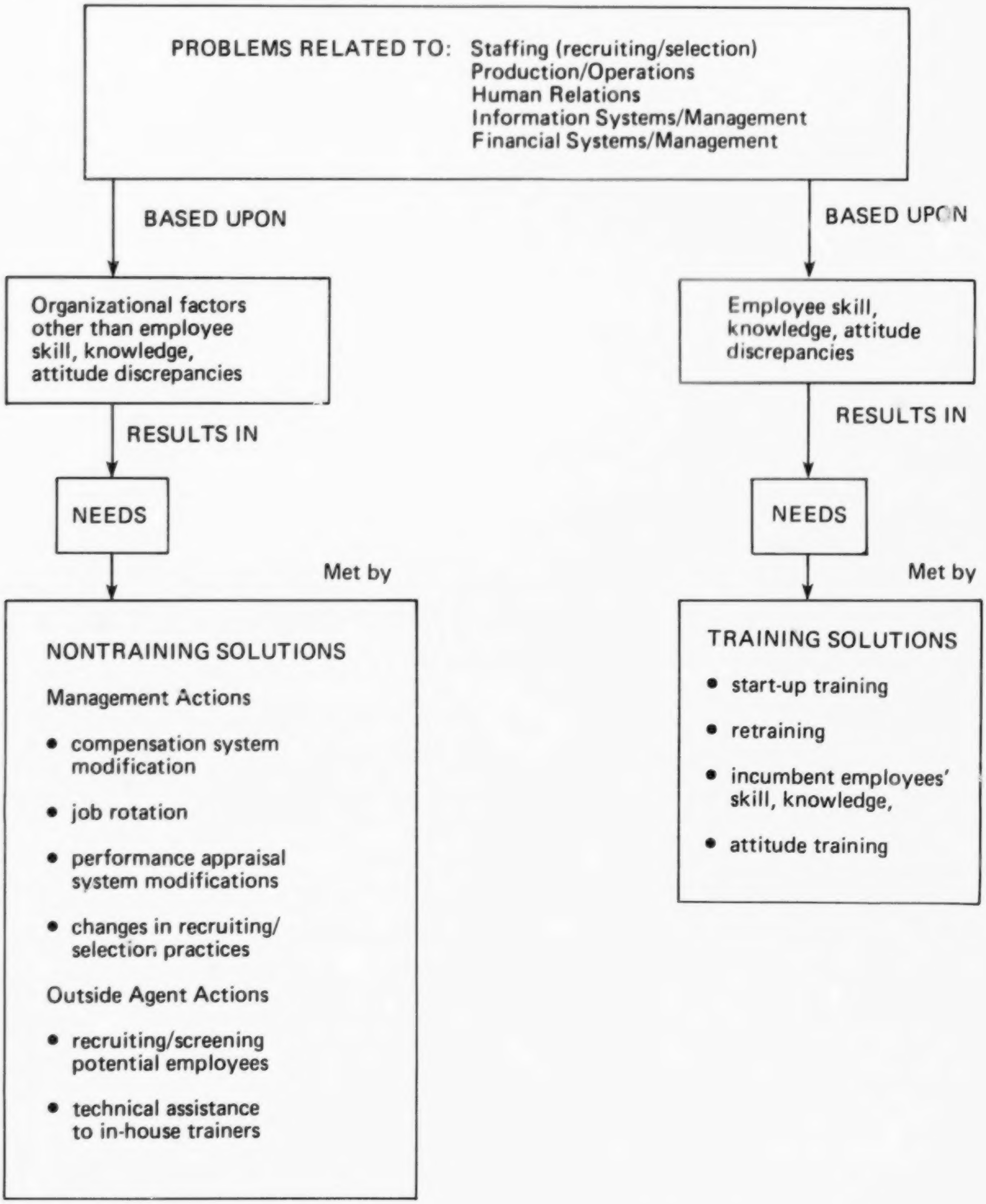
PROBLEMS RELATED TO: Staffing (recruiting/selection)
Production/Operations
Human Relations
Information Systems/Management
Financial Systems/Management
BASED UPON
BASED UPON
Organizational factors other than employee skill, knowledge, attitude discrepancies
Employee skill, knowledge, attitude discrepancies
RESULTS IN
RESULTS IN
NEEDS
NEEDS
Met by
Met by
NONTRAINING SOLUTIONS
Management Actions
• compensation system modification
• job rotation
• performance appraisal system modifications
• changes in recruiting/selection practices
Outside Agent Actions
• recruiting/screening potential employees
• technical assistance to in-house trainers
TRAINING SOLUTIONS
• start-up training
• retraining
• incumbent employees' skill, knowledge,
• attitude training

Figure 4. Training and nontraining solutions to organizational problems.

EXHIBIT 18

SOME DATA SOURCES TO DETERMINE CUSTOMIZED TRAINING NEEDS

- Informal contacts at trade associations and professional society meetings
- Community surveys
- Targeted surveys (specific companies industries)
- Formal company visits
- Site visits
- Employer-generated proposals inquiries
- State and local economic development offices
- Trade business journals and other business publications
- Faculty members
- Students
- Other educational training institutions
- Community organizations agencies
- Labor unions, at both national and local level
- Private industry councils (PICs)
- Formal company needs assessments
- Informal contacts with training HRD personnel

EXHIBIT 19

BIL-GENERATED TRAINING PROPOSAL

COMPANY MAKING REQUEST

COMPANY ADDRESS

COMPANY COORDINATOR TITLE PHONE

DATE PROPOSAL NUMBER (state assigns no.)

TITLE OF PROPOSED PROGRAM

PURPOSE AND OBJECTIVE (include expected functional level upon completion)

LOCATION OF TRAINING (in-house or school-based)
DESCRIPTION OF TRAINING (specific content)

SUBJ TRA PHASE	PARTICIPANTS GROUPS	HOURS OF INST	SESSION	BEGINNING ENDING DATES
TOTAL PARTICIPANTS			TOTAL	INSTRUCTIONAL HOURS

Add sheet for additional information, as needed, for additional subjects or training components.

SOFTWARE ASSISTANCE NEEDED (Audiovisual aids? Instructional materials?)

TRAINING FACILITIES OR EQUIPMENT NEEDED

CONTRACTUAL TRAINING NEEDED (Special Process or Equipment)

EMPLOYEE (or potential employee) ASSESSMENT NEEDED

EXHIBIT 19—*Continued*

INSTRUCTOR TRAINING (to carry out training by company) NEEDED

ORIENTATION NEEDED (New employees? For company expansion?)

APPRENTICESHIP CONSIDERED IN SKILL-LEVEL DEVELOPMENT

RESEARCH RESOURCES ASSISTANCE NEEDED (manufacturing, technical, management)

TRAINING COORDINATION NEEDED (for larger programs)

ELIGIBILITY CRITERIA (to qualify for financial assistance) PLEASE BE SPECIFIC

A new company or developing organization planning major expansion (New employees needed?)

A company making or planning capital investment expenditures for new equipment, process, or technology (retraining required?)

A depressed industry that can be revitalized (development needs?)

A company facing a critical need for skilled employees (shortage occupation?)

COST ESTIMATE (Add any cost information or estimates for any contractual training equipment, software, or other financial data from company evaluation of training project.)

SOURCE: Mid-Central Training and Development Association, n.d

In addition, the Postsecondary Alliance of Institutions/Districts (Nasman 1981) has developed a model to assess the education and training needs of business, industry, and labor. The data gathered by using this model can then be analyzed to determine if the institution's present programs are meeting BIL needs and what additional--unfulfilled--training needs exist. (A more detailed description of this model can be found in chapter 3 of *Developing Curriculum in Response to Change.)*

Tips on Conducting an Occupational Analysis

The content of vocational-technical programs should be based on occupational analyses. An occupational analysis identifies the competencies needed to enter a particular occupation or job. In some cases, the "required" competencies are identified by what's in the textbook or by the instructor's past experience. This type of "analysis" will rarely reflect the actual needs in the local world of work. A more formal analysis procedure is needed.

Traditional Approach

Typically, conducting an occupational analysis has been a very lengthy process. The educator must complete all the following steps:

- Define the scope of the analysis.
- Prepare a complete occupational description for each occupation involved, drawing from a variety of sources.
- Develop an initial listing of duty and task statements, drawing from a variety of sources.
- Have the initial listing reviewed by workers and/or supervisors from the occupational area.
- Revise the listing.
- Have the revised listing reviewed by workers.
- Verify the duty and task statements through observation of workers, interviews with workers, or by having workers complete an inventory form.
- Tabulate the data gathered.
- Interpret the data.
- Select the duty and task statements to be included on the final list.

The analysis process generally is designed to answer the following types of questions about each task statement listed:

- Is this task performed by beginning workers?
- How often is this task performed?
- How important is this task?
- How difficult is it to learn to perform the task?

It can take a year to complete this type of analysis, with a major commitment of time, money, and staff. For many agencies, it simply is not an efficient way in which to regularly update program offerings. What then?

Use of Existing Analyses

One option is to identify existing occupational analyses through sources such as state curriculum laboratories, the Vocational-Technical Education Consortium of States (V-TECS), or one of the six regional curriculum coordination centers supported by the U.S. Office of Education. An existing analysis or analyses can be used to prepare a listing that can be verified locally, using a process like the one described above. This approach can yield the results required using less time, money, and staff.

DACUM Approach

DACUM (Developing A Curriculum) has proven to be a very effective approach for quickly deriving, at a relatively low cost, the competencies or tasks that must be performed by persons employed in a given position or occupational area. DACUM, which utilizes small-group brainstorming techniques, is a process that results in a skill profile for a particular job or occupational area. DACUM is primarily concerned with the *what* of a curriculum, rather than the *how*. It is, in fact, an analysis of the occupation rather than a curriculum evolving from an analysis.

It is graphic in nature, presenting definitions of an entire occupation on a sheet of paper. This tends to prevent treatment of any element of the occupation in isolation and, conversely, tends to promote treatment of each element as part of a larger whole. General areas of competence required in the occupation are defined, and each is subdivided into those individual skills (tasks) that collectively enable an individual to perform competently within that general area. These skills are defined quite simply and are structured independently in small blocks on the chart. Each can serve as an independent goal for learning achievement. (A more detailed description of the DACUM process can be found in chapter 6 of *Developing Curriculum in Response to Change.)*

Tips for Developing Instructional Materials

The development of instructional materials is not an easy task. Content specialists are needed. Curriculum specialists are needed. Skilled editors are needed. And media specialists may be needed. Thus, the first tip is that, unless an institution can devote sufficient qualified staff and adequate funds to accomplish the task, it should not get into the materials development business. If the BIL client is promised special materials for the program and then an instructor is expected to quickly come up with something--with limited time, help, and resources--the result will probably not be particularly appealing or useful.

It may be advisable to adopt a system such as that used in South Carolina. Their Special Schools are supported by a curriculum development unit, and although this is a statewide system, a single school or district could support a small unit for the same purpose. The Special Schools materials are *attractive* and *customized*, yet as simple to develop as is probably possible.

For each training program offered, an attractive loose-leaf notebook is prepared. The cover is plastic-coated and shows the title of the program (e.g., metal fabrication, laboratory chemistry, measuring tools). It also has an illustration from the specific industry, such as a picture of the plant or its workers. And credit is given on the cover both to the State Board for Technical and Comprehensive Education and to the industry. Thus, the cover personalizes the material and gives partial ownership to the industry--helping to create a sense of cooperative effort.

The contents of the loose-leaf notebook are a blend of general and specific material. For instance, if the program is on metal fabrication, there will be some training materials that will apply regardless of the specific industry involved. Those materials can be simply pulled from a file and duplicated. Other materials, specific to a given industry, may be already available. The industry itself may have prepared materials. Equipment manufacturers' guides and other materials may be available. These can be easily blended into the training notebook. And finally, additional materials may have to be developed to fill gaps or expand the present scope of the contents. By adding glossaries, graphics, and photographs (preferably taken at the specific industry), a training package is produced that makes use of already existing materials insofar as possible, but that is truly customized.

One final tip regarding the duplication of materials. Care should be taken in reproducing existing materials. First, of course, copyright laws must not be violated. Second, if a particular document is to be duplicated without retyping or typesetting it, the quality of the "original" must be good. There is nothing more frustrating than barely readable copy--broken letters, holes punched through words, blurred characters, and so on. Poor originals should be retyped or typeset--or not used.

Tips on Evaluating the Training Effort

A solid evaluation of training efforts is necessary for both improvement of training development and delivery and for accountability purposes. The usual approach, and the best, calls for both formative and summative evaluation. Results from formative evaluations allow for assessment of the program in process and consequent in-course corrections. Results from summative evaluations allow for assessment of the total program and post-course improvements. Data gathered during a summative evaluation can also be used to assess learning outcomes and, in some cases, transfer of learning to actual work situations.

There are many evaluation strategies and techniques available. Exhibit 20 shows three different groupings of options--instruction/post-instruction, long-term, and quantitative. These can be used in combination to produce an effective evaluation. What is used, of course, will depend upon available resources including time, money, and personnel. Space does not permit a full examination of these options, but it is important that they be understood by the linker. Formal evaluation devices ensure that the training provider has data that are reliable, organized, verifiable and, most importantly, useful.

Some examples of formal evaluation devices follow. Exhibit 21 is a summative evaluation form to be used by trainees. Exhibit 22 lists some of the major questions that should be answered by a summative evaluation. A sample supervisor survey form is shown in exhibit 23.

Summary

An educational institution must pay attention to many different components in order to design, develop, and deliver *quality* customized training programs. The training effort must be clearly defined. Time requirements must be estimated accurately. Students and instructors must be selected. Facilities, equipment, and supplies must be obtained. Instructional methods and instructional materials must be developed. And evaluation techniques must be determined.

If the educational institution wants to respond quickly and effectively to BIL training needs, the institution must ensure that mechanisms that allow for the needed flexibility are developed and operational. Careful advance planning will help the educational institution minimize red-tape procedures and complicated decision-making channels.

EXHIBIT 20

EVALUATION OPTIONS

Instruction
Postinstruction

Trainee Performance Measurement:
- Testing
- Observation

Trainee Interviews

Reaction Questionnaires:
- Course content structure
- Materials media
- Instructor

Instructor Feedback:
- Course implementation
- Course materials
- Trainee observation

Trainee Self-Report

Long-Term

Trainee Performance Measurement:
- Self-reports
- Supervisor reports

Effect Measures (indirect):
- Changes in: error rates, work speed, work quality, customer complaints, sales orders, etc.

Supplementary Data:
- Trainee interviews
- Supervisor interviews
- Questionnaires

Other Quantitative Approaches

Experimental Designs:
- Education of group differences
- Measures of correlation

ROI (Return on Investment) Measures

Formal Observation Systems

EXHIBIT 21

TRAINEE CHECKLIST FOR APPRAISING INDUSTRY SERVICES PROGRAM

What did you think was good about the program? Check all that apply.

______ The program helped me learn how to perform the tasks.
______ The program helped me pass the tests.
______ The program helped me perform the tasks.
______ The program was interesting.
______ The instructional aids were good.

What did you think was wrong with this program? Check (x) all that apply. This information will help improve future training programs.

______ Did not understand the purpose of the program.
______ Did not understand the information given during the program.
______ The program had nothing to do with preparing for a job.
______ The program took too long to complete.
______ The program was too hard to complete.
______ I did not understand the meaning of some instruction.
______ The program needed more pictures, demonstrations, and illustrations.
______ Did not have an opportunity to perform the tasks.

How could the program be improved? Comments: ______________________________

____

____

____

____

SOURCE: *Closing a Training Program*, n.d., p. 27.

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EXHIBIT 22

OUTLINE FOR ASSESSING TRAINING PROGRAM

PLANNING TRAINING PROGRAM

1. Was enough planning time available prior to the start of the training program?
2. Did the various agencies involved spend an adequate amount of time preparing for the training program?
3. Were the responsibilities for planning made clear to all concerned parties?
4. Was sufficient training provided for instructors prior to the start of the training program?
5. Were the manpower requirements clearly identified prior to the start of the training program?
6. Was a proper study made of the manpower availability prior to the start of the training program?

ORGANIZING TRAINING PROGRAM

1. Were the industry skills to be taught properly identified?
2. Were instructional materials developed based upon industry skills required?
3. Were instructional materials properly organized for effective use?
4. Were facilities and equipment ready for use?
5. Were proper communication channels established for the industry services staff?
6. Were proper communication channels established for prospective trainees?

MANAGING TRAINING PROGRAM

1. Did the proper number of trainees enroll in the training program?
2. Did the training program start on schedule?
3. Did the training program close-out date parallel the plant start-up date?
4. Was the length of the training program appropriate?
5. Did trainees receive the proper amount of training?
6. Were the instructional materials developed for the program used effectively?
7. Were the instructional activities appropriate to industry needs?
8. Was instruction handled efficiently (without redundancy or lost time)?
9. Was the training program properly monitored and coordinated?

EVALUATING TRAINING PROGRAM

1. Were the skills acquired by the trainees recorded?
2. Were opportunities provided for industry personnel to periodically review the progress of trainees?
3. Were the achievements of the trainees certified?
4. Were competent trainees provided opportunities for placement?
5. Were trainees satisfied with placement opportunities?
6. Did trainees progress on the job?
7. Are plans being made to use instructional materials produced for the program in future training efforts?

SOURCE: *Closing a Training Program*, n.d., pp. 29, 31, 33.

EXHIBIT 23

SUPERVISOR SURVEY

Course/Program Name ______________________ Date ______________________
Date Training Received ______________________

TRAINEE INFORMATION

Length of time: with company ________ in present position ____________
Current work location ________ job title ______________________

SUPERVISOR INFORMATION

Did you supervise the employee prior to most recent training

If yes, how long? ____________
If no, STOP. DO NOT complete this form.

Length of time: With company ________ in present position ____________
Current work location ________ job title ______________________

The following statements relate (1) to employee performance SINCE he or she has completed the training experience or (2) to the overall effectiveness of the training experience. Indicate your level of agreement with each statement using the following scale:

SD=Strongly Disagree D=Disagree NC=No Change A=Agree SA=Strongly Agree

	SD	D	NC	A	SA
1. The employee works in a *safer* manner	☐	☐	☐	☐	☐
2. The employee can do *most* parts of the tasks on which training was received	☐	☐	☐	☐	☐
3. The employee can do *all* parts of the tasks on which training was received	☐	☐	☐	☐	☐
4. The employee can show and explain to others how to do tasks	☐	☐	☐	☐	☐
5. The employee needs much less supervision to complete tasks than before training	☐	☐	☐	☐	☐
6. As a result of training, the employee has demonstrated a knowledge of parts, tools, and simple facts used in the tasks	☐	☐	☐	☐	☐
7. As a result of training, the employee has demonstrated a knowledge of procedures used to complete tasks	☐	☐	☐	☐	☐
8. As a result of training, the employee has demonstrated a knowledge of operating principles involved in performing the tasks	☐	☐	☐	☐	☐

EXHIBIT 23—*Continued*

	SD	D	NC	A	SA
9. The correct amount of material was covered during the training of the employees on the identified tasks for the best benefit of the company........	☐	☐	☐	☐	☐
10. I have seen a positive change in the employee's attitude as a result of the training..	☐	☐	☐	☐	☐

Comments/Support____

____

____

____

SOURCE: *Closing a Training Program*, n.d.

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Chapter 8
Providing Apprenticeship Programs

Knowing how to develop and maintain an apprenticeship program is important to any vocational-technical school or community college, since these types of programs provide linkages that can greatly benefit both local employers and students. This chapter contains guidelines for developing and maintaining *quality* apprenticeship training programs at the postsecondary level.

The material that follows has been excerpted and adapted from the following document:

> Bhaerman, Robert; Fitch, Brian; Goldwair, William; Lankard, Bettina; Pritz, Sandra; and Zahniser, Gale. *Apprenticeships in Employment and Training Programs: An Action Planning Guidebook.* Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1981.

Definition of Apprenticeship Programs

Apprenticeship training programs combine two methods of occupational training--on-the-job and classroom. Apprenticeship may be defined as a training system in which a person learns a skilled trade on the job under an experienced craftworker and in related classroom instruction. Apprentices are paid while they train, usually at progressive rates from a starting wage of about half the journeyman's rate up to 90 percent of full pay near the end of their apprenticeship.

Characteristics of Apprenticeships

Although there is considerable program diversity, apprenticeship as a system of occupational training has certain characteristics that employers, organized labor, and state and federal labor departments all recognize: in-depth, structured, and comprehensive training in the skills of a specific trade.

Although there is not total agreement on the concept of preapprenticeship, that term is used generically to refer to programs that could lead to direct employment in a skilled trade and that prepare individuals to compete for apprenticeship openings. Such programs provide services to aspiring applicants for apprenticeship but generally do not guarantee admission to it.

An apprenticeable occupation, according to the U.S. Department of Labor, is a skilled trade that possesses the following characteristics:

- It is customarily learned in a practical way through a systematic program of supervised on-the-job training.

- It is clearly identified and commonly recognized throughout an industry.
- It involves manual, mechanical, or technical skills and knowledge that require a minimum of 2,000 hours of on-the-job work experience.
- It requires related instruction to supplement the on-the-job training; such instruction may be given in a classroom, through correspondence courses, self-study, or other means of approved instruction. (PROJECT ASSIST 1980, p. 4)

Program Types

Apprenticeship programs may be based on one or more of the following arrangements:

- A written agreement between the individual apprentice and the employer or the appropriately designated employer's agent (an employers' association, a union, or a joint apprenticeship committee), containing the terms and conditions of employment and training or referring to a specific written program plan that makes adequate provisions for the employment and training of apprentices
- A written program agreement between the employer or an employers' association and the union describing the terms and conditions for the employment and training of apprentices
- A written program plan, prepared by the employer or an employers' association for firms without a union, that describes the terms and conditions for the employment and training of apprentices and has the employer's written consent
- A written program plan, prepared by the union, that describes the terms and conditions for the employment and training of apprentices and has the employer's written consent
- A written program plan, prepared by the employer or an employers' association, that describes the terms and conditions for the employment and training of apprentices and has the union's written consent
- A collective-bargaining agreement containing the basic standards of apprenticeship, with any supplements needed to cover these standards (U.S. Department of Labor 1980a, p. 4)

Three types of apprenticeship preparation programs, or preapprenticeship programs, have been identified. They are as follows:

- *Apprenticeship Outreach* recruits individuals and prepares them to perform in apprenticeship selection procedures. Services provided include preparation for tests, coaching for job interviews. Programs are not trade-specific but work with a variety of apprenticeships. Outreach efforts conduct no trade skill training as such.
- *Outreach with Skills Development* is a modification of the outreach concept in that it attempts to conduct training designed to increase manipulative skills and provide participants with a threshold proficiency in the skills of a certain trade. Because such programs offer trade-specific training, they tend to be directed at only one trade or a limited number of trades.
- *Craft Readiness Training* concentrates on skill development for a specific craft. Training is conducted more intensively and for longer periods. Recruitment and

orientation are lesser concerns of such programs (Lyndon B. Johnson School 1979).

Apprenticeship Standards

An apprenticeship program must be based on an organized, written plan stating the terms and conditions of employment, training, and supervision of one or more apprentices in an apprenticeable occupation. The plan must be endorsed by a sponsor who has agreed to carry out the apprenticeship training.

According to the Employment and Training Administration of the U.S. Department of Labor, programs registered by a state apprenticeship agency or the Bureau of Apprenticeship and Training must meet certain training and administrative standards.

The training standards are as follows:

- *Work Processes*--Standards must outline the work processes or specific tasks in which an apprentice will be trained through supervised work experience or on-the-job training. They should specify how much time will be spent in each major process or division of the trade.

- *Planned Related Instruction*--Standards should provide for organized instruction in technical subjects related to the apprentice's trade. This may include supervised correspondence or self-study courses, as approved by applicable law or by the policy of the registration agency. At least 144 hours of instruction for each year of apprenticeship is recommended.

- *Progress Evaluation Records*--Standards should show how the program will periodically review and evaluate the apprentice's progress.

- *Number of Apprentices to be Employed*--Standards should identify a ratio of apprentices to journeyworkers that is consistent with proper supervision, training, and continuity of employment.

- *Equal Opportunity in Apprenticeship*--Standards should affirm that the program will provide equal opportunity in recruitment, selection, and all phases of employment and training.

- *Term of Apprenticeship*--Standards should set a term of apprenticeship that is consistent with training requirements as established by industry practice, but in no case less than 1 year or 2,000 hours.

- *Probationary Period*-- Standards should establish a probationary period that is reasonable in relation to the term of apprenticeship. Apprentices should receive full credit toward the completion of their apprenticeship for the time served during this period.

- *Safety and Health Training*--Standards should state how the program will provide safe training in a healthful workplace for apprentices, both on the job and in related instruction.

The administrative standards set by the U.S. Department of Labor are as follows:

- *Union-Management Cooperation*--Standards should provide for union-management approval of the program where a collective bargaining agreement exists. Approval may be demonstrated in--

  - appropriate provisions in the bargaining agreement,

  - signature to the standards and/or,

- letters indicating agreement to the program; and/or establishment of a joint apprenticeship committee.

- *Wages*--Standards should set a progressively increasing schedule of wages for apprentices. The entry wage must be at least equal to the Fair Labor Standards Act minimum where applicable, unless a higher wage is required by state law or regulation.

- *Recognition for Completion of Apprenticeship*-- Standards should provide for acknowledgement of successful completion with an appropriate certificate.

- *Qualifications for Apprenticeship*--Standards should set specific qualifications for apprenticeship, applying equally to all applicants.

- *Minimum Age*--The starting age of an apprentice should be not less than 16 years.

- *Apprenticeship Agreement*-- Standards should provide for placement of apprentices under an apprenticeship agreement, pursuant to state apprenticeship laws and regulations, or Bureau of Apprenticeship and Training policy where no such laws or regulations exist.

- *Credit for Previous Experience*--Under the standards, apprentices should receive credit toward completion of apprenticeship for applicable work experience, or demonstrated proficiency, with commensurate wages (National Governors Association 1981).

An important related concept in apprenticeship is registration, both of programs and of individuals. The most current U.S. Department of Labor data indicate that there are now over 400,000 registered apprentices in the United States. This means that each of those apprentices is party to a written agreement that is evidence of that individual's participation in a particular registered program. The agreement contains the terms and conditions of the employment and training. Being registered simply means that both the agreement and the program have been accepted and recorded by an approved state apprenticeship agency and/or the Bureau of Apprenticeship and Training as meeting the basic standards for approval. The reason a program/agreement is registered--that is, conforms to standards recommended by the Secretary of Labor--is to determine whether various "federal purposes" apply to it.

It is important to remember that the standards pertain only to registered programs. There are programs operated by employers in apprenticeable occupations that have not received recognition because they have not been registered. However, these programs may offer quality training and should be taken into consideration when determining what training opportunities exist in an area.

Action Guidelines

The six tasks described in the remainder of this chapter do not necessarily follow any rigid time pattern--each should be considered an ongoing task. Understanding apprenticeship, for example, does not mean that studying the system stops after the first contacts are made, nor does establishing linkage mean that this activity ends after the first series of meetings with apprenticeship agencies has been held. In the same way, identifying, selecting, and guiding participants are not the last steps of the process either but are simply part of an unending chain of activities that, hopefully, will lead to an ongoing relationship with this mode of equipment training.

Apprenticeship development is a complex activity. These guidelines, therefore, are not to be used as a programmed system. Not all of the points may be applicable in every situation.

Task 1: Study and Understand the Apprenticeship System

The educational institution should designate a person to serve as liaison to the apprenticeship system and to study it as it relates to the local situation. The liaison should also study the characteristics of the apprenticeship system since it is a form of employment and, as such, differs from most other institutionalized systems of education and training. Apprentices are employed workers; an apprentice opening is a job opportunity. The system is voluntary; most apprenticeships are sponsored and supported financially by the private sector. The liaison should understand, too, that the competition to enter apprenticeship openings is real. Many more applicants apply for apprenticeship training than openings can accommodate. There is no lack of applicants; there is, more often than not, a lack of sponsors to train applicants.

The particular system within each state should also be fully understood. For general information about apprenticeship programs, contact should be made with the Bureau of Apprenticeship and Training (BAT) regional and state offices, state and territorial agencies, and the Apprenticeship Information Centers located in each state. However, for establishing program linkages, the individual sponsor should be contacted. In most cases this means a joint apprenticeship committee (JAC). The person to be contacted is the sponsor staff person who is normally called the apprenticeship coordinator/training director or administrator. This person is responsible for the day-to-day operation of the program and is intimately involved in all aspects of the particular skill training. This person undoubtedly is the best source of specific local program information. Some JACs do not have a paid person in the position; in such instances, the person to contact is the JAC chairperson.

The liaison should be aware of the functions of the following agencies:

- The Federal Committee on Apprenticeship (FCA)
- The Bureau of Apprenticeship and Training (BAT)
- Apprenticeship and Training Representatives (ATR's)
- State and Territorial Apprenticeship Agencies (SAAs) and Councils (SACs)
- Apprenticeship Information Centers (AICs)
- National Joint Apprenticeship Committees (NJACs)
- Joint Apprenticeship Committees (JACs)

The liaison should also be aware of federal apprenticeship regulations, several of which are of special importance. The U.S. Department of Labor, 29 Code of Federal Regulations Part 29 (29 CFR Part 29) sets standards that programs must fulfill in order to be registered. A second important regulation is the promotion of equal opportunity. First promulgated in December 1963, the regulation prohibits discrimination based on race, religion, national origin, or sex. The regulation requires the adoption of written affirmative action plans that include goals and timetables for increasing the representation of women and minority males in apprenticeship training; it also describes the activities that constitute a "good faith effort" to comply.

Task 2: Examine Other Apprenticeship Programs

The liaison should thoroughly review other apprenticeship programs. The most direct sources of information are such agencies as the regional Bureau of Apprenticeship and Training offices, state and territorial apprenticeship agencies, and apprenticeship information centers. Regular contacts with these agencies will provide useful information about programs in operation.

Task 3: Establish Linkages with the Apprenticeship System

The liaison should establish links with the apprenticeship system. The relationship between the two follows logically. Joint involvement at the very beginning is essential for all parties--the educational institution, industry, state agencies, and applicants for apprenticeships. This will help ensure that program designs will be based on real expectations of all who are involved.

The liaison should particularly seek out BAT staff to serve on advisory boards and to lend technical assistance in planning programs. This should occur as needed, from the inception of planning. The liaison also should examine the possibility of local joint apprenticeship committees acting as operators of training programs. It is wise to consider experienced groups as potential program operators. Educational institutions offering apprenticeship-related training programs should designate a liaison person from their staff who is familiar with the apprenticeship community. Many linkage opportunities are never achieved, apparently, because persons with improper experience and background are assigned liaison responsibilities.

Task 4: Develop Cooperative Plans and Program Elements

Program planners should bear in mind that the three major goals regarding participants are to (1) attract potential participants; (2) determine their needs, abilities, and aptitudes; and (3) assess fit of potential applicants within the program. The design of the program involves a careful matching of the characteristics of targeted groups with the requirements set by employers and joint apprenticeship committees for targeted occupations. The successful mix of program components depends on several factors--for example, addressing the needs of both applicants and apprenticeship sponsors and being sensitive to the problems of these groups; exploring labor market conditions, characteristics of the local industries and trades which the program serves; and considering hiring schedules and procedures.

Programs leading to apprenticeship should be planned to fit the needs of the applicant group to which they are adapted. One must remember that apprenticeship program sponsors are not suffering from a lack of qualified applicants. In fact, the number of persons making application to apprenticeship programs is increasing yearly.

Decisions must be made on the type of training that would be most relevant to the individuals to be assisted. Training must be designed to provide participants with skills and background education that will enable them to qualify for apprenticeship programs.

When planning on-the-job training (OJT) contracts for an apprenticeable occupation, the educational institution should encourage the employer to register all apprentices with the appropriate state or federal apprenticeship registration agency. This will help increase the possibility of continued training after the completion of the OJT period.

Apprenticeship activities should also be incorporated into the annual and long-range plans. In order to promote the coordination of employment and training activities, plans should include a description of the apprenticeship program and its efforts to coordinate with the local apprenticeship community. One significant way to ensure apprenticeship input is to consult with local joint apprenticeship committees as part of the planning process. Remember to notify this group when the plan is available for review. Committee members' suggestions for improvement should be actively sought.

In addition, programs leading to apprenticeships must establish and maintain credibility with industry. By contributing to the design of these courses, industry is ensured of the preparation of the participants. Having the confidence and the endorsement of industry is important in developing jobs for program completers. Coordination ensures employers of a sufficient number of employees with "first-day skills" at the time labor is needed.

In terms of specific elements, the following six are identified: educational services, orientation and counseling, skills development, supportive services, credit toward apprenticeship completion, and special components for target populations. Within these elements, a number of specific tasks are suggested. The following have been adapted from the Lyndon B. Johnson School of Public Affairs report, *Preparation for Apprenticeship Through CETA*, (1979, pp. 29-33). (Note that some apprenticeship programs will not accept a GED.)

- *Educational Services*
    - Remedial work should be available for those lacking a high school diploma.
    - Classes in English as a second language or referral to other agencies offering such classes should be available. If possible, language education should be conducted with training in tool identification and trade terminology.
    - Tutoring in test taking should be provided as needed.
- *Orientation and Counseling*
    - *Orientation*-- Acquainting participants with a new work environment--should be available for informing persons about opportunities in apprenticeship.
    - *Counseling*-- Assisting participants in resolving employment-related problems--should be provided.
- *Skills Development*
    - Three approaches that should be considered are classroom, hands-on, and on-the-job training. Many training programs employ a combination of approaches. Classroom training includes theoretical aspects of learning a skilled trade. Hands-on training is developing manipulative skills under supervision; it is distinguished from on-the-job training in that it takes place either in a shop or in a simulated work environment. On-the-job training is based on the idea that the best way to learn a trade is by actually doing the work in a job setting. The participant in OJT learns the skills of the trade by practicing them.
- *Credit Toward Apprenticeship Completion*
    - To increase the attractiveness of programs and to heighten participant motivation, consideration should be given to establishing additional rewards for successfully completing a preapprenticeship course. Note that credit for previous experience is evaluated by the program sponsor. In most instances, in fact in about all instances, preapprenticeship is not creditable toward the term of apprenticeship. It is merely one

avenue of helping a person prepare for entering into the apprenticeship program.

- *Special Service Components*

  - A special problem of some women desiring to enter the skilled trades is insufficient physical strength. Consider offering physical conditioning programs. Several preapprenticeship programs contain a physical training component that helps women develop the physical capabilities needed in many skilled occupations.

  - Women need to be prepared for the challenges associated with pursuing nontraditional occupations. In preparation for dealing with harassment that women might encounter, training in special communication skills might be offered. This type of training teaches the use of appropriate language in different types of job-related problems, enabling the women to assert their rights to equal wages and treatment without alienating their fellow workers.

  - Another approach, "counseling the whole person," provides services that might improve a participant's employability. Individual and group counseling sessions help participants learn ways to cope with problems. Some programs set up informal meetings to help alleviate the problem of isolation. These meetings serve as a forum to discuss mutual problems and to provide encouragement and camaraderie.

  - Several programs stress the importance of having knowledgeable instructors capable of developing a rapport with persons of diverse backgrounds. This is important when instructors and students come from different socioeconomic backgrounds. Orientation of instructors should be provided to heighten their awareness of the perspectives of the students with whom they will be working.

Because each preapprenticeship program has its own unique goals and objectives, evaluation of a program should be tailored to the specific goals of that program. According to the Lyndon B. Johnson School of Public Affairs (1979), short-term evaluation should be based on each program's progress toward its stated objectives; long-term evaluation should focus on the relative contribution of various service components to successful performance of participants in apprenticeship positions. Evaluative criteria should include placement and retention rates, changes in earnings, program cost effectiveness, and effectiveness of service components.

Task 5: Identify and Select Potential Applicants

Two major problems in attempting to increase participation rates of females and minority males are the lack of qualified applicants and high dropout rates among the targeted groups. Both of these problems involve the need to search for qualified or qualifiable candidates, inform them of opportunities available, and encourage their interests in apprenticeship. Counselors should disseminate information concerning the nature of apprenticeship, the availability of opportunities, the sources of applications, and the time and frequency of times for applying. They should make clear to potential participants that apprenticeship training requires highly motivated individuals.

Educational institutions providing apprenticeship programs should coordinate and promote the use of veterans' benefits for apprenticeship or on-the-job training. They also should be aware that eligible veterans can receive benefits by participating in approved apprenticeship and other on-the-job training. These benefits include the payment of a substantial training assistance allowance. The Bureau of Apprenticeship and Training or state apprenticeship agency also can assist in establishing such programs and ensuring that they are approved by the Veterans Administration.

Apprenticeship outreach programs (or targeted outreach, as it is called) attempt to identify individuals who are "job-ready." These programs should assess participants on the basis of educational and personal needs. The latter includes such needs as transportation or other personal concerns that can affect job performance. The former includes diagnostic testing in math, vocabulary, and spatial relationships. Once the initial needs assessments have been completed, participants may be referred to other community agencies for help or may be assisted directly by the outreach program.

The proper use of testing is vital in identifying and selecting potential participants. It is important to consider the use of a standardized, uniform battery of tests to determine applicant proficiency and aptitudes in reading, computation, and mechanical skills suitable for the craft in which participants show interest.

It is suggested that educational institutions become familiar with a document published by the National Center for Research in Vocational Education, *Testing in Employment and Training Programs: An Action Planning Guidebook* (1981). In it, eight specific action planning tasks are presented in detail. One of the tasks, setting test specifications for participants, is summarized below:

- Establish individual goals of assessment. Each participant should be treated as an individual. Participant involvement in goal setting is important. Participants often are well aware of what information about their vocational needs, interests, and abilities may be relevant to their employment goals.

- Decide what other specific information is needed about individual participants prior to testing. Also decide whether some (or all) of the information needed about an individual may be obtained through testing and whether or not a particular test is useful in obtaining accurate information for some (or all) of the participants.

- Set specifications for each participant; that is, determine what types of tests are needed for each. Some examples involve testing

  - for mechanical aptitude that does not require a high reading level,

  - for literacy for a low-functioning participant that does not require a high reading level,

  - of general learning ability that is available in Spanish.

- Determine each participant's test taking ability, whether the individual is "high literacy," "low literacy," or (as in some cases with disabled persons) whether the tests need to be adapted or modified.

- The idea of custom tailoring assessment to fit each participant as a unique individual is important and should be carefully explored. Individuals having similar needs could be tested in groups--as long as each person is treated uniquely and as long as individual needs are considered.

- Provide participants with the exact reasons for selecting each test. For example, explain what an aptitude test measures and how the results relate to a variety of jobs. Explain exactly what the results are, and what they mean, and how they will be used.

Several areas should be assessed in identifying and selecting potential participants--for example, personal traits, potential skills, acquired skills and experience, education and training, interest in the trade, social and economic factors, leisure activities, and physical condition.

The following items, adapted from *Administering an Apprenticeship Program for the Trade of Operating Engineer* (n.d.), illustrate the types of assessment concerns of practitioners:

- *Personal Traits*-- Assess character traits such as reliability and honesty. Review school records and the interview in determining a participant's attitudes toward work and whether the individual appears to be able to take and carry out assignments.

- *Potential Skills*-- Aptitude tests can help determine potential skills. A number of local joint apprenticeship committees use some form of aptitude tests. Caution should be used in giving the tests and in applying test results. Testing is highly technical; therefore, testing programs should be conducted only by competent testing personnel. Test batteries provide "tools" to measure potential. Scores serve as indicators and not predictors.

  Remember that skill tests do not measure "drive." With drive or motivation, those with less potential may succeed. If an applicant lacks dynamic interest, even the smartest one may fail to complete the training. On the other hand, drive may develop if the applicant finds a rewarding challenge. School and previous employment records should be used to provide information on potential skills.

- *Acquired Skills and Experience*--Checking previous employment records gives clues to determining skills. It is also useful to check the types of summer jobs one has had. Questions on the applicant's forms can give some information about past work experience. An interview should help determine some of these points. The application blank provides additional sources of information. Contacts with employers listed and with personal references will help you "get a line" on acquired skills and experiences of the applicant.

- *Education and Training*--A good basic high school education (including mathematics, science, and English) should be standard. Exceptions can be made for those who pass equivalency tests or present other acceptable evidence of educational qualifications. Educational standards should be practical and based on the type of craftspersons desired. Setting standards too high may eliminate many desirable applicants.

- *Interest in the Trade*-- Interest tests can help determine possible avenues of success. These tests should be supplemented by an interview and a supervised probationary period. In some cases upon receiving complete explanation of the qualifications required in the local apprenticeship standards, the applicant may reveal a lack of interest in learning a trade. Questions pertaining to interest should be included in the application form for follow-up during the personal interview. The probationary period is important. Here the apprentice finds out what the work is like and the kind of people and working conditions that individuals will meet. A report of observations made during this period will help the committee and the apprentice determine what is best for both.

- *Social and Economic Factors*--Having craftpersons in the family is a possible indication of interest in apprenticeship but is not a guarantee. Check these factors against an applicant's interest and aptitude test. Try to determine whether the applicant is interested only in getting a job or really wants to get into the trade.

- *Leisure Activities*-- Information on voluntary pursuits may help determine the applicant's suitability to the trade. Hobbies may indicate latent craft interests.
- *Physical Condition*-- The applicant should be given some idea of the various job conditions faced by journeyworkers carrying out their duties in a craft. The interview should be used to obtain information on these points. A certificate of medical examination may be required by the JAC of all applicants. It is better to spot hazardous physical conditions before the applicant is hired.

  Minor physical defects need not rule out an otherwise excellent candidate. The JAC normally will discuss the physical requirements and hazards of the trade with a medical advisor in order to obtain information that will help the committee make decisions regarding physical defects discovered in examinations. Such information will help to establish general physical requirements to be met by all applicants.

Task 6: Guide Participants in the Apprentice System

Although orientation and counseling generally are considered distinct activities, they are basically part of the same process (Lyndon B. Johnson School 1979). The Lyndon B. Johnson School of Public Affairs report addresses the issues in the following ways:

- *Orientation*-- The initial step is to acquaint apprenticeship participants with the nature of the trade, the concept and method of apprenticeship, the demands that will be made of the apprentice, the expectations of employers regarding attitudes on the job, and other rules and regulations which affect the employee on the job.
- *Counseling*-- The next step is to help participants know what to expect and how to handle problems that might cause them to drop out. In addition, many programs prepare individuals to deal with ethnic, racist, or sexual harassment. Educational institutions that provide apprentice training programs should offer counseling to help individuals choose a trade based on their interests and abilities. Another component is financial counseling. Consider bringing in former participants to meet with applicants. These role models should discuss experiences on the job and explain how they coped with the various difficulties of completing the apprenticeship program.

In implementing an Employability Development Plan (EDP) for each participant, counselors need to incorporate the necessary information about apprenticeship and apprenticeship preparation programs. The five major elements of the EDP are criteria for entry, goals, activities, persons responsible, and evaluation.

Counselors should also alert the participant to any unique features of particular apprenticeship programs in occupational areas. An excellent example of this has been cited for the construction industry:

> There are two general methods for entering construction apprenticeship programs: the "list trades" or "hiring hall" method and the "hunting license" method. In the hiring hall

> method, applicants are taken from the top of the list of eligibles as openings are available, and asked to report for formal acceptance into the apprenticeship program. At this time the applicants sign their apprenticeship or indenture agreements and become apprentices. Apprentices may be ordered to report either to the union hiring hall for assignment to jobs, or to vocational schools or to the JAC's training school to begin classroom work.
>
> In the hunting license method, applicants are given a blank letter of intent to hire, and must find an employer who participates in the apprenticeship program to hire them. This approach has advantages and disadvantages, depending on the applicants' contacts and ability to convince the employer that they will be good workers (U.S. Department of Labor 1980b, p. 20).

Participants should also be alerted to any restrictions such as age requirements and the fact that most programs are open for new entrants only once or twice a year. An apprenticeship is not necessarily an instant job. In some instances persons have waited 2 years to get into a program. This is not uncommon. However, apprenticeship opportunities are becoming more desirable. Applicants should be counseled to be persistent.

Counselors should assist participants with the application process in every way. The process varies from trade to trade. Each JAC will set up its own system for operating its program and selecting apprentices. Counselors should "walk" participants through the local programs so that participants are aware of the procedures. For example, while some programs take applicants all year long, others set specific recruiting times; still others open the program for new applicants whenever there is a need for more apprentices.

In general applications are accepted for 30, 60, or 90 days. During the open application period the applicant must file all information related to the application with the JAC. Some program sponsors will allow persons who meet requirements an additional 15 days for processing papers (such as high school transcripts or birth certificates). The materials required as part of the application package usually include a birth certificate, a high school transcript, a high school diploma or GED certificate, transcripts from vocational education schools, military discharge papers (if applicable), letters of recommendation, and letters verifying work experience in a trade area.

Participants should also be made aware of the nature of qualifying tests and interviews. Here are some key points to remember:

- The applicant is notified by the JAC of the date, time, and site for the qualifying test (if a test is required). Tests vary in scope and duration. Frequently all that is required is an aptitude test administered by the Apprenticeship Information Center (if there is one) or the employment service. In other cases, the qualifying test may last several hours or even several days and cover a wide variety of subjects. These tests are generally scored on a point basis, with 70 out of 100 a passing grade. Testing procedures are spelled out in detail in the standards established for each registered program. Applicants who pass the test are notified and asked to come for an interview with the JAC. In theory, the number of points a candidate earns, the rank score, and the number of available craft openings determine entry into a program.

- The interview is a crucial part of the process. Members of the JAC interview applicants and evaluate them on factors such as attitude, motivation, interest, and willingness to accept direction. Courtesy and a neat appearance are important, in addition to other interviewing skills, such as answering questions completely and providing the interviewers with information that will demonstrate interest in and knowledge of the trade. JACs are looking for people who will make dependable workers. It does not help applicants if they appear either submissive or overbearing and aggressive. They should be careful to maintain a balance. Committee members will ask questions with the purpose of finding out as much as possible about an applicant's capacity to become an apprentice.

- After all the application papers are filed and the test and interview are completed, each applicant is rated on the basis of points. Points are given for test scores, the oral interview, educational qualifications, letters of recommendations, vocational education courses, and previous experiences. Apprentice program sponsors are required by law to retain the list of eligibles for 2 years. Applicants should keep the JAC informed about changes in address, as well as additional courses or experience which could raise their rank on the list of eligibles. The ratings normally take into account education; martial status and dependents; financial conditions; transportation; physical condition and handicaps; and factors brought out in the interview such as interest, character, and cooperativeness (U.S. Department of Labor 1978).

Participants should be made aware of the following concerns: selection from committee rating, rejection of applicants, the appeals procedure, and the probationary period. Some of the main points to bear in mind are as follows:

- *Selection from Committee Ratings*
  - The number of new apprentices to be accepted normally is determined before starting interviews. This is based upon the needs of the industry.
  - Selection of individuals from the list of interviewed applicants is not done until all interview sessions are completed, each applicant rated, and all applicants ranked.
  - The actual selection of individuals is made by accepting from the top of the list (as rated by the committee) the number of apprentices previously decided upon.
  - All those interviewed are notified. Applicants who have been placed in a pool of eligibles are retained on lists of eligibles subject to selection for a period of 2 years. Applicants may be removed from the list at an earlier date, at their request, or following their failure to respond to a job offer sent by registered mail.
- *Rejection of Applicants*
  - If an applicant fails to achieve acceptance, the JAC attempts to inform the applicant and the cooperating agency of the insufficiency. Educational institutions should assist the applicant by referral to the appropriate agency for obtaining remedial skills.
- *Appeals Procedure*
  - An appeals committee normally is established and is composed of one member appointed each from labor and management and a public member appointed by them.
  - The authority of the committee is limited to the rendering of decision on cases involving unjust treatment of applicants for the

apprenticeship program in the matter of selection.

- Any appeal must be filed in writing within 15 days of the date of the notification to the applicant on the decision of the apprenticeship committee regarding the application.

- A copy of the appeal is filed with the JAC.

- The committee must file a written answer to the appeal within 30 days of receipt of the copy of the appeal.

- The committee considers the written evidence and shall, upon request, grant a hearing.

- A final decision is rendered within 30 days of the date of filing of the committee answer to the appeal or from the day of a hearing.

- Decisions of the appeals committee are final and binding upon the JAC.

- *Probationary Period*

  - After being accepted in a program, all apprentices go through a probationary period, usually from 500 hours to about 6 months, during which time they can be asked to leave the program without cause. Lack of interest, bad attitude, poor attendance, tardiness, poor grades in courses, and bad reports from supervisors could lead to being dropped from a program. This period is usually a difficult time for apprentices. Not only are they trying to prove that they can perform well in the program, but they are sometimes subject to harassment from other workers (U.S. Department of Labor 1978).

Summary

Developing an apprenticeship training program is a complex activity. The educational institution must thoroughly understand and establish linkages with the apprenticeship system and other apprenticeship programs. Special assessment considerations must be made in order to identify and select qualified applicants. Special educational services, such as orientation and counseling, skills development, supportive services, credit toward apprenticeship completion, and special components for target populations should be provided.

In addition, apprenticeship training programs must establish and maintain credibility with industry. Having the confidence and endorsement of industry is important in developing jobs for program completers. Coordination ensures employers of a sufficient number of employees who have mastered the required skills.

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Chapter 9
Providing Cooperative Education

Understanding how to develop and maintain cooperative education programs remains important to all vocational-technical institutions and community colleges. In recent years we have seen a great deal of interest in other kinds of linkage activities, but cooperative education programs still remain an important source of associations between education and the public and private sectors.

The material that follows has been excerpted and adapted from the following document:

> Humbert, Jack T., and Woloszyk, Carl A. *Cooperative Education.* Information Series no. 254. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983.

Key Terms

The terminology used in the operation of cooperative education programs is often confusing to both employers and school officials. Much of this confusion has resulted from the proliferation of experiential learning programs existing in both the public and private sectors. Terms related to cooperative education programs follow:

- *Advisory Committee*-- a group of occupational-area experts selected from outside the field of education to advise educators on vocational education programs.

- *Competency*-- a quality (e.g., knowledge, skill, or attitude) required for occupational success.

- *Cooperative Education (Title VIII, Higher Education Act of 1965, as amended by P.L. 96-374)*--an educational approach that provides alternating or parallel periods of classroom study and supervised public or private employment. Such a program is characterized by (1) a written training agreement between an institution of higher education, a student, and an employer; (2) work experience related to the student's course of academic study and career goals; (3) alternation between class attendance and work planned and supervised to further the student's education and employability; and (4) employment in compliance with federal, state, and local laws.

- *Cooperative Vocational Education (Vocational Education Act of 1963 as amended by Title II of the Education Amendments of 1976, P.L. 94-482)*-- a program of vocational education that provides, through written cooperative arrangements between schools and employers, instruction that includes required academic courses and related vocational instruction. These two experiences are planned and supervised by schools and employers so that each contributes to students' education and employability. Work periods and school attendance may be on alternate half days, weeks, or other periods.

- *Coordination*--the process of integrating the administrative, organizational, and instructional activities of cooperative education programs.
- *Coordinator*--an educator who coordinates school and occupational experiences for students.
- *Diversified Occupations*--a program to provide vocational education in schools where the required training facilities are lacking. On-the-job training is combined with classroom instruction through an agreement among the school, an employer, and a student. A diversified occupations coordinator places students in several occupational areas and works cooperatively with instructors who provide related vocational instruction.
- *Job Description*--a summary listing the elements of a specific occupation. The description may include the (1) purpose of the job, (2) duties, (3) equipment used, (4) qualifications, (5) training requirements, (6) physical and mental demands, and (7) working conditions.
- *On-the-Job Training*-- the instruction in the performance of sequentially planned tasks given a student by an employer during usual working hours. Learning experiences involve both the theoretical application and the skill aspects of the learning situation.
- *Related Vocational Instruction*-- instruction specifically designed to improve personal and social skills, provide needed basic education (developmental), and develop relevant occupational skills and knowledges. Instruction should be regularly scheduled, complement occupational learning experiences, and be planned and developed to meet the specific needs of each student. Instruction should include occupational information and related work-adjustment skills.
- *Student (Higher Education Act of 1965, as amended)*--a person enrolled in a cooperative vocational education program who alternates instruction in school with a job in any occupational area.
- *Task*--a measurable element of work from a larger occupational duty usually performed by a single worker in a short span of time.
- *Task Analysis*-- a sequential listing of the tasks necessary to the performance of a clearly defined, specific job. Tasks analyses are useful for classification and instruction.
- *Training Agreement*-- a written agreement that outlines the responsibilities of the student and employer. It is approved by the student, employer, teacher-coordinator, and parent or guardian.
- *Training Plan*--an educational plan often used in conjunction with a training agreement. Specific job tasks to be learned on the job and in the educational institution are included, along with an organized plan for the orderly acquisition and progression of job, duties, and tasks.
- *Training Sponsor*-- an individual directly responsible for supervising students' on-the-job learning experiences.

- *Training Station*-- an organization providing on-the-job training experiences for students enrolled in a cooperative education program.

Essential Elements

Cooperative education programs are comprised of basic elements required by the Vocational Education Act of 1963, as amended, and the Higher Education Act of 1965, as amended. Descriptions of these essential elements follow:

- *Alternate or parallel periods of instruction in school and supervised public or private employment are required*. Periods of work and classroom activities may be made up of alternate half days, full days, weeks, or other time segments. Postsecondary cooperative education students often work full-time for a quarter or semester term and then return to classes for a term.

- *A written agreement among the schools the employers, the students, and where appropriate, the parents or guardians is required*. This written agreement is commonly known as the training agreement. The training agreement is school initiated, and it outlines the responsibilities of the educational agencies, employers, and students to the program. An example of a training agreement appears in exhibit 24.

- *Instruction (including required academic instruction) must be related to the job and to the students'academic study or career goals*. Cooperative education programs normally have time requirements for related vocational instruction by occupational area, as dictated by the state vocational agencies. Higher education cooperative education work experiences are generally a component of the institutions' degree requirements. A designated amount of credit is awarded for the experience. Required instruction and courses are dictated by the requirements of each individual degree program.

- *The alternation of study and work must be planned and supervised to further the students' education and employability*. Cooperative education coordinators are responsible for planning and conducting related academic and vocational instruction designed to meet the students' on-the-job needs. Training sponsors have the responsibility of providing a variety of well-planned tasks to assist students in becoming competent employees. Competent supervision by both parties ensures that experience in a systematic progression of job-related skills is correlated with classroom instruction.

- *Students must be employed and compensated in compliance with federal, state, and local laws*. Such compliance ensures that students are not exploited for private gain. The compensation feature guarantees that students are paid for work performed and that they are recognized employees of the employing organization.

Research related to each of the five essential elements is reported in the following sections.

Alternation of Study with Employment

The U.S. Office of Education (1975) reports that three patterns of study and work are commonly used:

- *The Alternate-Semester Pattern*. Two students hold one full-time job during the year, each spending alternate semesters on campus and on the job.

EXHIBIT 24

SAMPLE COOPERATIVE EDUCATION STUDENT TRAINING AGREEMENT

EMPLOYER: ____________________
(Name of Business)

EMPLOYER IRS NUMBER: ____________

STREET: ____________________

CITY: ____________________

STATE: ____________________

ZIP CODE: ________ PHONE: ________

FEDERAL HAZARDOUS OCCUPATIONAL DEVIATION:

________ YES ________ NO

SUPERVISOR: ____________________

DATE EMPLOYMENT BEGINS: ____________

WORKER'S DISABILITY: ___ YES ___ NO

UNDERWRITER: ____________________
(Carrier)

LIABILITY INSURANCE:

________ YES ________ NO

UNDERWRITER: ____________________
(Carrier)

STUDENT NAME: ____________________

STREET: ____________________

CITY: ____________________

STATE: ____________________

ZIP CODE: ________ PHONE: ________

SOCIAL SECURITY NO.: ____________

DRIVER'S LICENSE NO.: ____________

GRADE: ________ AGE: ________

BIRTH DATE: ____________________

RATE OF PAY: ____________________

EXPECTED PROGRAM COMPLETION DATE: ____________

DAILY TIME SCHEDULE: ____________

FROM ________ TO ________

MAXIMUM WORK HR./WEEK: ____________

CAREER OBJECTIVE: ____________________

OCCUPATIONAL TITLE: ____________________

NCES (USOE) CODE: ____________________

EXHIBIT 24—*Continued*

JOB TASKS AND ACTIVITIES	RELATED VOCATIONAL INSTRUCTION
The student will complete the following work-related tasks and activities (on-the-job):	The student will complete the activities in school:

EMPLOYER'S RESPONSIBILITY IN PROGRAM:

1. The student's training period shall be an average of 15 hours per week.
2. The training plan should include job tasks and activities that are of vocational and educational value.
3. The employer shall complete a brief progress report (provided by the coordinator) at the conclusion of each marking period indicating the trainee's progress on the job.
4. The training program that is agreed upon shall not be interrupted by either trainee or employer without consultation with the coordinator.
5. The employment of the trainee shall conform to all federal, state, and local laws and regulations, including nondiscrimination against any applicant or employee because of race, color, religion, age, marital status, sex, national origin, or ancestry. This policy of nondiscrimination shall apply also to otherwise qualified handicapped individuals.

TRAINEE'S RESPONSIBILITY IN PROGRAM:

1. Trainee will abide by the regulations and policies of the employer and the school.
2. Each trainee shall faithfully perform the assignments of the job and school program.
3. No trainee shall leave the training program without first receiving the consent of the cooperative education coordinator.

Approved Date____________

Trainee____________________

Parent____________________

Coordinator____________________

Employer____________________

NOTE: (Employer must retain a copy of the completed training agreement at the place of employment before a minor begins work.)

SOURCE: Humbert and Wolosyzk, 1983, pp. 39-40.

- *The Parallel Pattern.* Students engage in concurrent part-time work experience and classes.

- *The Career Development Plan.* Students hold full-time jobs and attend classes in the evening.

A 1978 study noted that 75 percent of the postsecondary schools studied in New Jersey offer cooperative education programs on a semester basis (Agrawal 1978). Students enroll primarily in parallel or extended-day plans. In the interest of gaining the apparent benefits of the flexible programming at the postsecondary level, a national institute recommended that scheduling patterns should be more varied and that supervised summer employment programs should be implemented (Billings 1970).

Written Agreements

The most commonly used agreement is known as a training agreement, a statement of understandings and responsibilities related to student employment. A training plan, a second type of agreement, is an educational outline used in conjunction with a training agreement. The training plan details specific job tasks to be learned, focusing on the students' career goals and identifying time periods for learning assigned job tasks. It also specifies tasks to be learned in the classroom and at the training station.

Palmieri, Iwler, and Lucas (1980) suggest that training agreements should have three distinct sections:

- General student-learner, school, and job site information
- Responsibilities of the training station, students, parents, and school
- A statement of nondiscrimination policy

Peart (1977) found that training agreements used in postsecondary institutions are usually concise forms representing informal understandings rather than formal legal contracts. Oral agreements are the basis of many postsecondary cooperative education programs. The results of this study suggest that written agreements should be used, and that the following items should be included:

- Information about the program
- Objectives of the program and for the student
- Signatures of all involved parties
- Information about the student
- Information about the employer
- Student responsibilities
- Parent responsibilities
- Employer responsibilities
- Job requirements
- Employer requirements

With regard to training plans, Palmieri, Iwler, and Lucas (1980) report that only 51 percent of the cooperative education programs studied use such outlines identifying the responsibilities of teacher, parent, student, and training sponsor. Litchford (1977) reports that the majority of training sponsors studied were not involved in the development of training plans.

The use of such a training plan is advantageous. Thompson's (1976) research findings indicate that a structured approach to the work experience component of cooperative education is effective in teaching occupational competencies.

Related Instruction

Cooperative education programs provide occupational instruction, including instruction related to the students' jobs and educational and career goals. As each student is placed in employment, the coordinator, student, and training sponsor should cooperatively develop a training plan to structure the educational experience.

This task may be somewhat difficult because agreement between coordinators and training sponsors is not widespread. Research indicates that coordinators believe that related instruction should be occupationally specific (Hutt 1975). Employers believe, however, that the instructional program should have a broader focus and should include such topics as computational skills, personality development, and communications skills (Hutt 1975; Litchford 1977). This is supported by a study completed by Usoro (1980) that indicates that employers of vocational-technical workers expect their prospective employees to have the following characteristics:

- Adaptability
- Ambition
- Cooperativeness
- Dependability
- Neatness
- The ability to follow directions

The cooperative development of training plans should also provide for student concerns. Several studies have examined student perceptions of what should be provided in related instruction. Misley (1980) suggests that community college vocational curricula are deficient in requirements related to work attitudes and interpersonal skills. Phillips (1980) supports the perceived need for employability skills training and suggests that graduates acquire jobs more quickly when they receive employability skills instruction.

Regarding the structure of a training plan, Stewart (1979) noted that community college students prefer an open-entry/open-exit, self-paced instructional style followed by on-the-job training. Several studies have also been conducted on coordinators' perceptions as to what related instruction should be offered. Welch and Dixie (1972) found that coordinators place a high priority on the teaching of work attitudes, employer-employee relations, human relations, and job-seeking techniques. Lloyd (1981) reports that coordinators rank topics in descending order of importance for related instruction as follows:

1. Attitudes
2. Employer-employee relations
3. Communication skills
4. Payroll procedures
5. Mode of dress
6. Employer-customer relationships
7. Information on current technology and economic information

Planned and Supervised School and Work Activities

The alternation of study and work in cooperative education programs must be planned and supervised to ensure that systematic progression and acquisition of skills by students occur. School experiences must be correlated with on-the-job aspects of cooperative education to contribute effectively to students' education and employability. Structured training plans provide for this coordination, but close supervision is necessary for successful implementation.

Palmieri, Iwler, and Lucas (1980) found that 89 percent of the cooperative vocational education programs studied provide this close supervision. However, agreement on this point is yet to be achieved. A study of the perceptions of employers, college administrators, and coordinators reveals that about 35 percent of administrators recommend five or more visits by the coordinator to the training station each semester. However, 85 percent of the coordinators and 78 percent of the employers see this amount as excessive.

A New Jersey study reveals that employers neither receive sufficient information regarding cooperative education nor are contacted by the coordinator on a regular basis (Agrawal 1978). This may be due to the problems identified by Collins (1977). Extensive teaching assignments and insufficient time for coordinating and travel are major concerns.

Lloyd (1981) suggests that additional research is needed regarding the optimum coordinator-student ratio. The average coordinator-student ratio per hour of designated coordination time is 1 to 11. However, as many as 45 students (per hour of released time) are assigned to some coordinators.

Although there is considerable disagreement regarding supervision of cooperative education students, consensus clearly exists regarding the importance of coordinator visits to training stations. Because coordinators are responsible for the health, safety, welfare, and educational progress of students, many state education agencies have established coordination schedules for training station visits.

Compensation of Students

Students involved in cooperative education must be employed and compensated in conformity with federal, state, and local laws. Little research has been conducted regarding compliance with the legal requirements. Secondary vocational cooperative education students are limited in their work schedules by federal and state legislation affecting minors, whereas postsecondary students generally have the flexibility to work up to full time at a training situation.

The requirement that cooperative education programs comply with federal, state, and local laws attempts to ensure that cooperative education students receive a valid training experience, adequate compensation for their efforts, and are not exploited for private gain.

Program Organization

Research on the functions of cooperative education coordinators in Michigan identified nearly 60 required tasks classified into 5 functional areas (Vocational-Technical Education Service 1981). These areas are as follows:

- Administration
- Coordination
- Guidance
- Professional development
- Public relations

These classifications for the functions of cooperative education coordinators provide a framework for the discussion of the available research related to program organization. Program administration is the first area of concern in the organization of cooperative education programs.

Administration

Various aspects of planning, implementing, and operating cooperative education programs have been well researched. The findings of these studies are discussed in the following section.

Needs Assessments

A needs assessment should be conducted prior to the implementation of a cooperative education program. Stauber (1976) assessed the need for a cooperative education program in a technical institute. In that survey, which obtained results much like those of similar efforts, 96 percent of the employers, 97 percent of the educators, and 95 percent of the students surveyed favored the implementation of a cooperative education program.

Cost Analyses

It is also recommended that a cost analysis be completed prior to the establishment of a cooperative education program. In such analyses, Molnar (1973) and Moore (1976) found that the costs of operating cooperative education programs are comparable to those of operating other educational programs. There seems to be little difference in the costs of providing a vocational-technical cooperative education program and a regular vocational-technical education program. Capital planning and staffing for "work-study programs" need not cost more than a regular classroom program. Several studies, however, do report higher costs for cooperative education than for regular programs (Lewis et al. 1976; Stromsdorfer and Fackler 1973; Vocational-Technical Education Service 1982).

Ideally a cost analysis of a cooperative education program would compare the actual program costs with the discounted value of the benefits derived by students from program participation over the period of their employment. Obviously, the benefits that accrue to a student over a lifetime of employment must be estimated, making cost-benefit analyses less than accurate. Research regarding the accrued benefits to students over a lifetime has not been conducted for cooperative education.

Advisory Committees

Administrative guidelines for cooperative education programs developed by Moore et al. (1975) emphasize the following as important steps in developing a program:

- Establishing a steering committee made up of representatives of all groups with an interest in the program (i.e., employers, students, parents, and educators)
- Holding joint meetings with cooperating agencies
- Documenting the events that occur during the planning effort

The Vocational Education Amendments of 1976 require vocational education programs to include an advisory committee in their operational plans. The establishment of a steering committee for the purpose of implementing a cooperative education program offers administrators an opportunity to begin the development of an advisory committee for the program. An advisory committee assists a coordinator in the operation of the program, according to one administrative handbook (Vocational-Technical Education Service 1981), by doing the following:

- Identifying program goals and objectives
- Reviewing the instructional program
- Determining expected program outcomes
- Assisting with student placements
- Furnishing equipment and supplies

An Oklahoma study (Amos 1974) reports that the following are perceived as important contributions of advisory committees:

- Gaining support and assistance for public relations efforts
- Promoting the program
- Identifying community problems and training needs
- Acquiring community surveys and manuals and the services of resource persons
- Updating the teacher-coordinator
- Training employers
- Providing feedback from the community

Planning

In developing an organizational plan for the implementation of a cooperative education program, the steering committee must consider the following questions:

- When can employers best use the services of students?
- How flexible is the school calendar and daily schedule?
- When are qualified staff available?
- When is transportation available to take students to training stations?
- How willing are administrators to adjust student schedules?

Postsecondary institutions frequently use an organizational plan for cooperative education in which students attend classes every other term and work during the remaining terms. Some industry-sponsored cooperative education programs are organized similarly, providing periods of instruction alternately with work periods.

Reporting

In addition to the requirement that advisory committees be established, the Vocational Education Amendments of 1976 require that follow-up surveys be conducted annually of completers of vocational education programs. Accurate records and reports are needed for compliance with this requirement, as well as for those of state and local agencies. An annual report highlighting the accomplishments of the cooperative education program can easily be prepared from the information collected for required reports. Such a report is invaluable for promoting the program. It is suggested that the report answer the following questions about cooperative education program graduates:

- How many jobs are represented by the group?
- What types of jobs are represented by the group?
- How is employment among the group related to the cooperative education programs represented?
- To what extent does the cooperative education experience of the group appear to have been adequate?
- To what extent does the group demonstrate occupational mobility?
- To what extent has the group sought additional education?
- What occupational problems have been encountered by members of the group?

Coordination

Coordination is the process of integrating all the administrative, organizational, and instructional activities of a cooperative education program to the benefit of students. Activities involved in coordination are (1) those related to the essential elements of a cooperative education program and (2) those provided as supportive services.

Cooperative education programs are operated by coordinators--individuals who must possess the versatility to carry out a wide variety of activities. The *Handbook of Cooperative Education* (Seaverns and Wooldridge 1971) asserts that a cooperative education coordinator functions in the following roles:

- Administrator
- Educational recruiter
- Mediator
- Placement specialist
- Referral agent
- Salesperson
- Teacher
- Troubleshooter
- Vocational counselor

Guidance

Cooperative education programs are designed to contribute to students' career goals by providing career preparation activities. These programs can also contribute to the broader area of career concerns--individual career development. Career development involves planning, exploring, and establishing life roles. Cooperative education programs are increasingly recommended as a career development intervention that eases the transition from school to work and promotes career exploration (Silberman and Ginsburg 1976; Super and Hall 1978; Wirtz 1975).

Research reveals that cooperative education on-the-job experience provides a superior vehicle for vocational exploration (Ducat 1980). This finding is supported by Klubnik (1977) which indicates that the quality of on-the-job experiences in cooperative education is an excellent predictor of the quality of the individual's survival skills. It may be inferred that the possession of superior survival skills is an indicator that the individual is effectively managing the transition from school to work.

Lamb and McKay (1979) suggest a plan for effectively assisting students in their efforts to reach career goals. This career development strategy is the consolidation of placement and cooperative education programs. Lamb (1980) notes that students often come to the placement office to inquire about part-time work, and may not be aware of the benefits of cooperative education.

One study (Husted 1977) reveals that cooperative education coordinators believe the following to be important guidance functions of coordinators:

- Placement
- Recruitment and selection
- Educational guidance
- Career counseling and occupational information
- Personal and social counseling
- Follow-up
- Permanent record inventory

Not surprisingly, cooperative education coordinators who have had training in guidance activities are more likely to perform these functions than those who have not. Another survey (Vocational-Technical Education Service 1981) reveals that cooperative education coordinators perceive the following guidance functions to be a substantial part of cooperative education coordinators' responsibilities:

- Orienting students to cooperative education policies and procedures
- Consulting with counselors, administrators, and teachers about enrolling students in cooperative education programs
- Assisting students in preparing for job interviews
- Conducting interviews with potential cooperative education programs
- Assisting students with employment applications
- Assisting students with personal adjustment problems
- Conferring with students about their educational progress
- Analyzing students' permanent records in relation to placement
- Writing letters of recommendation for students and graduates
- Orienting school personnel to cooperative education policies and procedures
- Conducting parent conferences

The procedures that cooperative education coordinators rank as most effective in carrying out guidance tasks--especially in assisting students with problems--have been identified by Rudisill (1976). These are as follows:

- Strategies directed toward students' high-interest concerns
- Individual counseling and individualized instruction
- Placement on a job appropriate to students' interests and abilities

These activities emphasize the importance of individualization in working with students. The needs of all students must be considered, but those of certain populations may require special consideration. Whereas cooperative education programs are enrolling larger numbers of females and members of racial minority groups, continued emphasis on this effort is needed. In addition, efforts to enroll disadvantaged and handicapped students are in order. Lloyd (1981) reports that 87 percent of a sample of cooperative education coordinators have no contact with handicapped students. Jernigan (1978) asserts that a need exists to coordinate services for handicapped students with employers. If cooperative education coordinators are to make a real contribution to the career development of special populations, the following recommendations made by Gulledge (1978) must be put into practice:

- Ensure that the program operates responsive outreach and recruitment programs
- Ensure that guidance practices provide all students with the assistance necessary for making intelligent, informed occupational choices
- Develop effective communications with significant influences in the families of female (and other special) students
- Provide inservice education experiences designed to increase educators' awareness of their role in making vocational-technical education available to all students
- Devise means for improving females' (and other special students') perception of their potential
- Provide assistance to females (and other special students) in occupational decision making

Public Relations

Cooperative education program objectives are misunderstood by many students, parents, and educators. The image of cooperative education is not as positive as it could be among these groups (Waddell 1976). Key individuals may not be as knowledgeable about the program as is desirable. A study by Davis (1977) reveals, for example, that secondary principals demonstrate a need for increased knowledge of the program.

One of the often overlooked responsibilities of cooperative education coordinators is program promotion--activities designed to increase awareness of the program. Lamb (1980) notes that a community college developed a special public relations project to increase awareness of cooperative education programs among student, faculty, and employers. Counselors, instructors, and students visited local businesses and industries to facilitate the exchange of information. Enrollments in cooperative education increased as a result of these visits. Public relations is ranked as important among coordinator tasks (Brownlee 1977). A survey (Vocational-Technical Education Service 1981) of cooperative education coordinators indicates that they believe the following public relations tasks to be a significant part of their job:

- Sponsor seminars about cooperative education for educators, employers, and parents
- Sponsor visits to businesses and industries for students and educators
- Implement a "day-on-the-job" program for students
- Develop a vocational group for students

Such activities can ensure the vitality of cooperative education programs by effectively communicating program purposes and procedures to the individuals whose support is needed for success. Strategies that are suggested to improve public relations for cooperative education programs include the following:

- Inform student groups about cooperative education
- Plan and conduct an annual employer-employee recognition activity
- Inform the school and community about cooperative education
- Include cooperative education students in recruitment activities
- Develop a cooperative education course catalog
- Prepare brochures about cooperative education programs to distribute to students
- Display information about cooperative education programs on bulletin boards
- Prepare information pieces about cooperative education programs to be used as public service announcements on radio and television
- Place advertisements for cooperative education in school and community newspapers

Professional Development

Cooperative education coordinators are typically required to hold a baccalaureate degree, to have 2 years of experience in their occupational field, and to complete one or two professional courses in cooperative education at a postsecondary institution. An assessment (Brown and Wilson 1979) of cooperative education teacher training programs led to the following conclusions:

- Cooperative education coordinator training should focus on participant objectives and outcomes.

- Workshop faculty must be highly skilled (i.e., competent).

- Workshops designed for experienced cooperative education coordinators should be offered.

Continuing education for cooperative education coordinators is becoming increasingly important because both instructional methodologies and the technologies used in business and industry are constantly changing. Coordinators were found by Brownlee (1977) to believe that inservice education is important, and that training in the following topics is needed most:

- Developing training agreements

- Selecting training stations

- Public relations

- Student relations

Roth (1978) reports that cooperative education coordinators perceive the following as important topics for inservice education programs:

- Correlating classroom instruction with on-the-job instruction

- Placement

- Student occupational problems

- Improvement of students' working environments

In order to maintain a high degree of professionalism, coordinators must continually keep abreast of innovations. Attending workshops and seminars and participating in college courses provide cooperative education coordinators with opportunities to discuss innovations with other professionals. Professional organizations, such as the American Vocational Association, sponsor state and national conferences where state-of-the-art information may be obtained. Journals dealing with topics related to cooperative education are also made available by these organizations and others, and these should be reviewed regularly.

Cooperative education coordinators can contribute to their knowledge of current technology in business and industry by attending meetings of business and civic organizations. Business and civic groups in many communities offer opportunities for coordinators to attend lectures and workshops on topics related to cooperative education or to an occupation. Membership in business and civic organizations also provides coordinators with opportunities to promote interest in cooperative education programs.

Summary

The essential elements of cooperative education programs include (1) alternate of parallel periods of instruction in school and supervised public or private employment; (2) a written training agreement among the school, an employer, and a student; (3) vocational instruction (including required academic instruction) related to the job and the student's academic study or career goals; (4) carefully planned alternation of study and work supervised to further the student's education and employability; and (5) student's employment and compensation in compliance with federal, state, and local laws. Progam implementation involves assessing needs, completing a cost-benefit analysis, organizing an advisory committee, planning, and reporting.

A cooperative education coordinator integrates all the administrative and instructional activities of a cooperative education program to the benefit of students--those activities related to the essential elements and those related to such supportive services as guidance. Guidance activities contribute to career development--that is, the planning, exploration, and establishment of life roles. The coordinators' responsibilities in the area of public relations include activities designed to increase awareness and create a positive image for the program. Professional development activities are important to keep abreast of innovations.

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Chapter 10
Dealing with Business and Industries' Barriers to Linkages

While attempting to establish linkages with business and industry, your educational institution is likely to encounter problems or barriers that impede this lingage. This chapter discusses some of these barriers and reports on inventive solutions that other educational institutions have used to get around these barriers.

The material in this chapter has been excerpted and adapted from the following document:

> Warmbrod, Catharine P.; and Faddis, Constance, R. *Retraining and Upgrading Workers: A Guide for Postsecondary Educators*. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1983.

Barriers and Solutions

The barriers, solutions, and recommendations discussed in this chapter are one result of information gathered through site visits to colleges involved in exemplary economic development activities. The colleges studied were Tri-County Technical college in Pendleton, South Carolina; Macomb Community College in Warren, Michigan; State Technical Institute at Memphis, Tennessee; Triton College in River Grove, Illinois; and South Oklahoma City Junior College in Oklahoma.

During the five case study site visits, probing questions were asked regarding the kinds of barriers--and related solutions, if any--staff members at the five colleges encountered in their efforts to participate in economic development through upgrading and retraining of adult workers. More often than not, the enthusiasm of the college representatives for their programs was such that discussions veered away from direct discussion of barriers, focusing instead on the innovative policies and procedures by which the colleges managed to avoid or demolish such barriers. As a result, analysis of the case studies provided a plethora of "solutions" whose barriers could only be inferred from the discussions. The barriers thus derived seemed to cluster into the following categories:

- State and local linkages for economic development
- Course approval systems
- College forecasting and planning
- Marketing of customized training
- Quick response customized training
- Customized training management

- Flexibility of resources
- Internal organization and cooperation
- Faculty and staffing
- Other economic development outreach services

In the discussions that follow, specific barriers related to each of these categories will be examined and practical solutions (where they exist) utilized by the different case study colleges will be reviewed.

State and Local Linkages for Economic Development

Barrier 1: It is difficult to convince state and local politicians and agencies to consider educational needs in a long-term, futurist perspective.

Solutions

At Triton College, the president has the ear of the locally-elected board of trustees, who "have bought into" Triton's priority for economic development. At the state level, Triton's president, top administrative staff, and board of trustees have developed excellent contacts and working relationships with Illinois representatives and senators, with state agencies, and with the governor.

At Tri-County in South Carolina, college administrative staff members have developed their own personal contacts and relationships with the state Technical Education College (TEC) System and the state's economic development agency. Although the TEC System appears to be more formally forwardlooking than most state education agencies, Tri-County staff did suggest a number of strategies that could stimulate continuing long-term perspectives and planning. These include (1) establishing a computerized network across state postsecondary institutions to facilitate ready access to statistics on any area of the state and (2) conducting more joint regional funding projects and seminars to educate local politicians about changing educational needs and the great potential that training represents for improving the local and state economies.

Barrier 2: There often are problems in acquiring funding and other support from the state for college economic development efforts.

Solutions

At the State Technical Institute at Memphis, college administrators make sure that all upgrading and retraining courses offered by the college, whether customized for industry or not, are credit-granting courses. This is because the state reimbursement policy is based on the number of credit hours generated. The college designs all courses for industry to meet both internal (and company) standards and all state requirements for credit.

In Michigan, where Macomb Community College is located, the state recently began to fund start-up training in the state through its community colleges. The effort is very new, however, and not well marketed. Even so, the Michigan Community College Presidents' Committee on Economic Development took the major responsibility for proposing and promoting the initiation of the state program. The skillful use of such formal organizations' influence is one avenue to awakening legislators to the potential of postsecondary training activities for economic development.

Barrier 3: State funding for customized training exists, but it is too often limited by strict eligibility restrictions, thereby reducing its effectiveness.

Solutions

There are at least several avenues for colleges to acquire state funding for customized courses, if they are willing to assume leadership in influencing state economic development activities, or are willing to look for ways to ensure reimbursement by the state for customized courses offering credit. Where such avenues are not available or effective the colleges may assume responsibility themselves for trying to provide inexpensive customized training to industry. Such courses may be offered at cost or at near-cost by the colleges, or funds may be sought from other, local sources, such as a county or city council.

Barrier 4: There is the will for cooperation between state agencies and colleges in economic development efforts, but poor or muddled communications hamper those efforts.

Solutions

A number of the colleges designate a single person as the contact for communications about economic development efforts, both for the college and for the agency. While colleges have no control over such designations for state agencies, within the college itself the designated contact most often is the president. By dealing on a one-to-one basis with the agency commissioner or board director, rapport is built, confusion and red tape are avoided, and the college is able to move faster, when necessary, on customized training agreements. College presidents or other senior administrators can also serve actively in any local development agencies, in order to cultivate crucial contacts and establish useful communication networks across political levels.

Barrier 5: Poor or insufficient communications and articulation among state and local educational institutions often hamper their efforts to improve their economic development outreach.

Solutions

The State Technical Institute at Memphis shares its courses, curriculum materials, and expertise with area vocational-technical schools in the state so they may better serve industry throughout the state. The institute has also contracted with eight area vocational-technical schools to bring them under the administration of the institute in order to further their outreach to industry and to ensure efficient and accurate articulation of technical training.

Tri-County Community College, as part of South Carolina's TEC System, will soon have access to model curricula (as well as a mobile equipment pool) in the six designated high-technology training areas served by TEC's Innovative Technical Resource Centers.

Barrier 6: Formal contracts mandated for some states' customized training programs for industry may require many signatures of various college and state officials.

Solutions

In some states, contracts are either not required, or they require the signatures of only the college president and the company representative. In Tennessee, the State Technical Institute at Memphis has, on occasion, felt it necessary to begin training before all the numerous signatures were obtained on the contract. In that state, new legislation will be necessary to delete the contractual red tape. This is a barrier that may be best avoided in other states from the time of initial state legislation to fund customized training. Legislators must be educated about the costs of bureaucracy so that legislation allows any contracts deemed necessary to be signed only by the company representative and the college president.

Course Approval System

Barrier 7: Credit courses, whether customized or not, require time-consuming course approval by the state board of regents or other state education agency.

Solutions

The Oklahoma State Board of Regents for Higher Education reserves for itself the right of approval for not only every new program, but every new course. South Oklahoma City Junior College (SOCJC) maintains some flexibility by creating course categories with a Special Topics subcategory that has a generic course description. This description is written so it can be used for almost any new kind of course, within the general course area. The Special Topics courses are also written to have variable credit (0-4 credit hours). The newly developed course description is then transmitted to the state Board of Regents as a Special Topics course within the approved course category. Such Special Topics courses require only internal college approval. The Board of Regents recognizes the necessity of such a generic course generation system, and informally allows much flexibility. The Board of Regents also has a procedure for 30 day emergency course submission and approval.

The State Technical Institute at Memphis has a similar arrangement with the Tennessee State Board of Regents for customized credit courses. The college is not required to submit a revised course description for approval unless that course has had its content changed by more than 10 percent, overall. When more than 10 percent of an existing, approved course must be changed to meet customization requirements, the college makes use of a Special Course designation that has a previously approved generic description.

Barrier 8: When seeking course or program approval, the State Board of Regents requires that employer demand be shown, even though the course may address training needs that are only emerging.

Solutions

At Triton, the college's Office of Research conducts employer surveys to determine demand levels, with a short turnaround time on the research. This is highly useful to the college not only for course or program approval, but for gauging job demand for graduates of its accelerated Job Training Institute courses (as well as for adding, dropping, or modifying them). Triton also finds it very useful to survey all possible applications for new technology areas to determine the true job demand level. For example, for laser/optics, Triton researchers found very low demand for the obvious manufacturing applications, but the demand for laser technicians rose significantly when they surveyed laser applications in optical-, medical-, and research-related jobs.

Colleges also make effective use of advisory committee members to collect data on employer demand. Advisory committee members, especially those employed by or owning local companies, have numerous contacts through their professions and can ask other employers more readily for sensitive data than can college representatives.

College Forecasting and Planning

Barrier 9: There are problems finding enough reliable information on changing job demand, high-technology trends, changing occupations, changing regional economic patterns, shifting demographics, and so forth in order to make intelligent decisions about both short- and long-range institutional needs and economic development programs.

Solutions

At Triton College, long-term strategic planning is emphasized and depends on an information gathering and sorting strategy called "environmental scanning," as well as on formal surveys conducted by the college's Office of Research. Environmental scanning is considered the responsibility of every staff member, although top administrative staff members have the primary responsibility to "keep their ears to the ground" for reliable, useful information and data. Environmental scanning is conducted informally, with all Triton staff encouraged to keep track of what is going on in their own specialty areas in whatever manner is effective and fits their own work styles. Information is fed back to the administration to guide priorities and decisions. The state of Illinois also conducts surveys every 5 years, and Triton staff members make use of that data, but also conduct their own annual graduate surveys and other more frequent surveys of the community in order to have the most up-to-date information. In some cases, Triton makes excellent use of professional surveys, such as the Gallup poll, but most often Triton's surveys are conducted by its own staff via telephone.

Macomb Community College also has access to some statewide data, but has not always found them applicable. Macomb supplements state data with its own evaluations and surveys. A special department, the Center of Community Studies, is being set up to help gather data for planning and development. The center uses primarily telephone surveys, and plans are to have a special room designed with plug-in phones and staffed with 10 to 12 trained persons to make and take calls.

Barrier 10: Changing technologies continually render current programs obsolete.

Solutions

At SOCJC, the College administration recently added 6 months of "futuring" activities to its regular duties, in order to collect information on changing technologies and application trends and to forecast how the college's own priorities would be required to change to meet the emerging training needs. This futuring activity included considering the information in *Three Thousand Futures: The Next Twenty Years for Higher Education* (Carnegie Council 1980). As a result, the college has created four in-house task forces to conduct intensive brainstorming sessions with mid- and upper-level management staff and with related faculty in the college in specific content areas. These groups have collaborated to develop departmental and institutional goals for their training areas, with schedules for development of programs and acquisition of facilities and/or equipment over the next 10 years.

At Triton College, technological forecasting depends in part upon the staff's environmental scanning approach, and in part upon advice and insights from the various programs' advisory committees. These committees deliberately involve experts from the technologies related to the programs--including researchers and users of the technologies, persons who are active in the industries. Information from advisory committees is also a primary source of technological forecasting for the State Technical Institute at Memphis and for Tri-County Community College. Tri-County also has access to information and forecasts from the TEC System's six innovative Technical Resource Centers around the state, whose express mission is to keep the TEC System colleges on the cutting edge of technical training in the six designated technological areas.

Barrier 11: Poor communications between business and industry and the 2-year colleges keep them from becoming informed about each other's needs and services.

Solutions

Much of a college's communications relate to the way it markets its training services, and to its methods for gleaning important environmental information for forecasting and planning. All of the colleges in the site visits give strong emphasis to finding more (and more expert) industry people for their advisory committees, because these persons are key agents in linking the private sector with the colleges. At Tri-County, top college administrators work to convince county planning commissions to include more expert business and industry representatives on the commissions and other related agencies or councils. Tri-County also conducts plant-site visits with most companies for which it delivers customized training, one purpose being to establish good communications with that company and its industry. Tri-County faculty members are encouraged to become involved in plant functions and to spend summers seeking on-site work experiences with companies in their specialties. Tri-County also has a TEC industry services representative who spends the majority of his time in the field making personal calls on companies to market the college's customized training services and to establish two-way communications between the companies and the college for any other purposes that may arise.

Triton College has perhaps the most unique--and probably one of the most effective--strategies for establishing two-way communications with the private sector through its special relationships with professional societies and trade associations, and through the long-term training contracts it has established with corporations. Bringing the trade associations' headquarters right onto the Triton campus has been especially effective, as it encourages experts in various fields to become involved in college training activities as students, instructors (or lecturers), or as advisory committee members. Triton also puts time and effort into maintaining its contacts with a variety of professional and technical networks around the country. These contacts serve a variety of two-way functions, but are especially useful to Triton in locating experts to instruct highly specialized customized courses or seminars.

Barrier 12: Job openings may not always be available for graduates of training programs, especially of programs designed to retrain adults for new occupations.

Solutions

Customized training for start-up in Michigan (Macomb Community College) is funded by the state only if the company requesting the training guarantees to hire all qualified graduates. In South Carolina, start-up training funded by the state does not have this stipulation, but the majority of training graduates have always been hired by the requesting companies, and turnover rates for hired program graduates after 1 year in the company have been consistently low (often around 1 percent).

Triton College makes good use of its environmental scanning and its annual graduate surveys to keep the college informed of local job market changes. The annual survey of graduates probes how many graduates are employed in the areas of their training, and how well their training matches up with what their jobs entail. This information is used for yearly decisions on whether to add, delete, or modify courses and programs. In addition, Triton's Job Training Institute (JTI), which delivers accelerated training to adults for entry-level employment in high demand job markets, has its own placement specialists, who contact business and industry and "develop" jobs for JTI graduates. The goal is to have at least one promising interview lined up for trainees upon completion of their JTI training.

Marketing of Customized Training

Barrier 13: Colleges do not always make the right contacts or adequately communicate their commitment to economic development and their customized training services for industry.

Solutions

There are a variety of approaches to marketing a college's economic development services, but at virtually every college studied, top administrative staff members at the college as well as faculty in general are considered "salespersons" for customized training. At Tri-County, Triton College, and SOCJC, the top administrative staff conducts intensive personal marketing that involves meeting with industry representatives who approach the college for training services. Several of the colleges have specific persons or departments responsible for making direct industry contacts with the express purpose of informing those companies of the college's customized training services and then selling them.

Several colleges make effective use of other marketing strategies in addition to personal selling. Triton College uses catchy slogans ("Are you running a school or are you running a business?" and "Triton for Training") in its direct mail marketing of training to companies, as well as in marketing its courses to the community at large (daybreak courses have been advertised as the "Breakfast of Champions"). Triton puts considerable emphasis on following up every "nibble" from its direct mail campaign with intensive telemarketing follow-ups (i.e., telephone contacts intended to set up appointments with company representatives in order to sell customized training services). Triton also uses journals, popular periodicals and newspapers, professional and trade networks, and radio ads. The college has a marketing office devoted to pursuing its aggressive marketing policy, with expert graphics and advertising staff to prepare its enticing booklets, brochures, posters, letters for mail campaigns, and copy for ads.

Every college involved in actively marketing its customized training services has emphasized the need for staff members who speak industry's language--that is, these staff members must understand a business's priorities, listen well, talk "turkey," try not to preguess or tell a company what its needs are, and avoid educational jargon. A number of colleges are fortunate to have their key marketing staff be persons who have owned or worked with industry, which lends not only greater savvy to college-company contacts, but also greater credibility.

Barrier 14: Colleges may not have the resources or may not have made it a priority to do extensive marketing of customized training services, though they may wish they could do more.

Solutions

SOCJC has an interesting tradition in regard to marketing customized training that appears to work well, despite its somewhat reduced emphasis on direct and aggressive marketing, as compared to some other colleges. SOCJC does give some responsibility for direct marketing to the dean of community services, the dean of career development and industrial relations, and the business-industry coordinator, but much of this responsibility is shared with the rest of the college faculty through SOCJC's "decentralized" marketing approach. In this system, faculty members have primary responsibility for looking for opportunities to expand economic development participation and training in their own specialities. While this approach has created a "fragmentation" of effort in the past, the new structure--with the expanded responsibilities of the dean of career development and industrial relations--should remedy the problem. The dean will coordinate all the faculty efforts and follow through on institutional objectives. Faculty members are nonetheless considered the best program marketers, because they have the expertise and are best equipped to talk to industry about the training opportunities they can provide.

Macomb Community College does not have the resources to do an extensive amount of customized training, nor has it made this one of its priorities. Michigan's Department of Labor provides some funds for free start-up training for industry, but the state does not aggressively advertise this service, nor is there a team approach among the state community colleges to promote the training. As a result, Macomb staff have been reluctant to take a leadership role--they have all they can handle in trying to stretch their budget to meet other college obligations, of which economic development is only a part. Macomb staff members have recently been organized, however, to create a center for community studies and services, which does some planning and outreach to inform the community of the college's services, and to gauge what the community and industry want from the college. Most outreach has been through contacts with local chambers of commerce (highly active in economic development), and with work-education councils in the county. The college has joined with the Michigan Community College

Presidents' marketing for programs that do exist.

Barrier 15: Colleges may run into problems convincing companies of their commitment and credibility in delivering customized training.

Solutions

Administrators at the colleges studied emphasized that the person responsible for making direct contact with a company to market customized training has to (1) convince the company that the college's customized training program will be conducted by qualified instructors and (2) that the program will meet all of the company's specified needs (as well as any certification standards, where they pertain). One of the most important marketing aids is the college's track record, which should show its long-term commitment to industry training needs, customized and/or noncustomized. The college should also cultivate a reputation for always making good on its promises. For this reason, the president of Triton College has laid down the college policy regarding all customized training, whereby even if college representatives miscalculate what the college can deliver, the college always backs its commitments and invests whatever resources are necessary to make the training program work.

Colleges that have been involved successfully in delivering customized training generally keep track of the effects of the training on the productivity and employer turnover of the companies. South Carolina (Tri-County) claims that its "Start-up in the Black" training allows new companies to operate at almost immediate high productivity rates because trainees received instruction on equipment and processes that are virtually identical to the set-up at he new plant. Although this claim might e argued, there does seem to be reduction n the amount of time that plants starting p in that state take to become productive, mpared with start-up in other states ithout such training. In addition, Tri-County keeps track of the rate of turnover for trainees from its customized training programs, and in many cases (especially for start-up training, where the college is involved in recruiting and selecting the trainees) the rate of turnover is as low as 1 percent during the first year of employment. This compares with turnover rates as high as 150 percent in a year for new employees recruited by the company and not given customized training. Even in the less stable economy of Michigan, turnover rates of graduates from Macomb's customized training programs are 20 percent in a year, compared to local companies' more usual 85 percent.

Several colleges take representatives of prospective companies to meet representatives of companies for which the college has delivered customized training. The local companies frequently are quite eager to give their recommendations to the visitors, and satisfied "customers" lend enormous credibility to a college's sales pitch.

At all of the colleges studied, the most important agent for communicating and supporting a college's credibility is the college president, who must be the ultimate leader and contact for the college's customized training services. At several of the colleges, the interest, knowledge, and commitment of the president to the college's economic development outreach and track record have been extraordinary, and the colleges' track records have been impressive. Presidents who have the support of their boards of trustees and state agencies in marketing customized training are probably the most important marketers for any economic development outreach.

Barrier 16: Some Colleges have trouble convincing or assuring a company that upgrading its employees through customized training will not result in those employees' taking their new skills and leaving the company for more lucrative employment elsewhere.

Solutions

Although no such instance was uncovered in the five case studies, some companies and/or colleges apparently require trainees in customized courses to sign documents stating that they will stay with their original employer for a stipulated length of time following completion of the courses. At the request of a given firm, some colleges make sure that courses for industry make use only of that company's specific materials and customized machines and that training is highly specialized to the particular company's operations. Changing jobs involves a basic individual freedom in this country; it is questionable just how much any college or company can or should try to block workers from exercising this right.

Barrier 17: Some companies do not want customized training because they do not want outsiders involved in their business.

Solutions

No solution was encountered for this problem at any of the five case study sites. Macomb administrative staff members admit that it is virtually impossible to design customized training without being given enough information about a company to "know what's going on with it." Therefore, they do not pursue customized training agreements with firms firmly opposed to outside influence.

Quick Response Customized Training

Barrier 18: It is often difficult to develop effective customized training courses on short notice.

Solutions

Several colleges emphasize the importance of having all staff and faculty be well informed about their college's economic development priorities and why economic development is so vital to the community. This--and a good deal of general preparedness on the part of those staff charged with negotiating and developing the customized training--infuses college staff and faculty with a sense of commitment to economic development efforts, and provides motivation and confidence in meeting unpredicted training opportunities.

The difficulty of finding qualified instructors is cited as one of the worst barriers to quick response. Strategies for locating such instructors include using full-time faculty where practical, using members of adjunct (part-time) faculty, using outside consultants, and using experienced employees from the very company requesting the customized training. (These will be discussed later in the barriers under "Faculty and Staffing.")

Macomb College, because of the very limited funds committed to providing customized training, sometimes functions as a broker rather than a provider of training, by steering a firm requesting customized training to the services of other area trainers who own their own training consultation firms and work independently. Even here, the companies usually want the college to remain a participant to some degree, asking college staff to look over the independent trainer's syllabus, to cosponsor the training arrangement, and in general, to provide input that adds credibility to the training.

Regarding designing curricula and providing instructional materials, many colleges base customized courses on training modules that are already in use at the college in regular occupational training programs. At SOCJC, staff members who put together customized courses phone publishers to try to locate any materials that may relate to the course (or any future courses the college is likely to customize). The college staff members also try to keep materials on hand that appear to have utility for any potential customized courses. Many regular college courses are deliberately designed to be modular and flexible in content so they can be reorganized and adapted readily for customized training needs.

At Memphis, all courses--including customized training--must be for credit, and college staff members are careful to make only minimum adjustments to existing, approved courses, whenever possible. To remain eligible for credit (and thereby for state reimbursement), course content must retain 90 percent of the approved curriculum. If the customized course requires more adjustment, the college compensates an instructor to revise the curriculum or design a new one. Such curricula (with more than 10 percent revision) are designated "Special Courses," and are covered for state approval under a generic Special Course description. This speeds up the design, approval, and delivery of customized training enormously. (Course approval can take up to a year in some states, so most colleges do not offer customized training for credit unless a company specifically requests it. In those cases, most colleges make use of special emergency procedures to obtain state approval, though delays are still a problem.)

Both SOCJC and Tri-County use a competency-based approach in all instruction, and this enables very clear and concise definition in agreements about course content and objectives when determining training needs. Tri-County also is currently putting all fundamental course modules on a word processor so staff can store, reorganize, modify, and print out customized courses as they are needed.

Barrier 19: Many colleges have problems finding funds to provide quick response in developing and implementing customized training as the need arises.

Solutions

In states where free start-up training is provided, there are usually set-aside monies for the purpose of developing or modifying courses. In South Carolina, facilities are created or adapted to meet special training needs through funds appropriated from local taxes by the county planning commissions, but the state TEC System pays all other developmental costs. The local and state economies are not unduly stressed by these costs, since most such training pays for itself in additional income and revenues created by the new jobs, often within a year or two.

At both SOCJC and Memphis, there is considerable budget flexibility, so that customized program development needs can be met. At Memphis, a certain amount of money is budgeted annually for its Business, Industry, Government Division to operate customized programs, and this money pays the salaries of the staff that develops the courses. On occasions when this annual allotment runs dry, the college president always finds funds to continue the division's work. At all the colleges, the staff does whatever is necessary to get a program up and running--secure modules, hire consultants to develop a program, or find some other method to enable quick response, and to fund course development.

Customized Training Management

Barrier 20: There is a danger of a college overpromising on what it can actually deliver regarding customized training.

Solutions

Having an administrative staff member or a department charged with coordinating and controlling the college's economic development outreach and marketing can diminish the likelihood that overpromising will occur. Colleges such as Triton, where marketing is a major thrust, have found that they must continually caution themselves not to let their reach exceed their grasp. The message is not, "Don't do it"; rather, it is remembering that resources are limited. The philosophy at Triton has been, "We take risks, but we don't fail--even if we lose additional resources." That is, if a commitment costs the college more in personnel or equipment than was budgeted, the college tries to make good on its promise anyway, because college administrators believe that the college's reputation and credibility are worth more than some lost monies. Once a college fails to deliver on its promises, it will take much more time and many more resources to convince industry that the college will "do it right" the next time.

Barrier 21: Companies may collaborate with a college on setting up customized training for their employees, and then have to back out of the arrangement.

Solutions

There is no simple solution to this program; colleges must be prepared to take this risk. However, economic development staffs at several colleges recommend that college management be careful about how much consulting the college gives away, gratis, in the planning phase of the activity, and how many staff members become involved whose time (and salaries) will be a loss to the college if a company must back out of a customized training agreement after resources have been committed. It may also be a good idea in some cases to have at least a simple contract with the company, and to write into that contract that the company will reimburse the college for developing the instructional materials and syllabus and consulting regarding the activity. (This does not apply, of course, to start-up training funded by the state.)

Barrier 22: It can be difficult for college course developers to make sure that customized courses teach the skills that trainees need and companies want.

Solutions

At Tri-County, the college provides free needs assessments, and qualified college staff will frequently make site visits to company plants to work with company representatives on designing course outlines and writing competency statements to guide instruction. The course syllabus and instructional materials are closely reviewed by the college and the company, together, prior to implementation of training. The use of competency statements and the competency-based approach to instruction simplifies communications and course development efforts.

SOCJC has companies that request customized training do their own in-house training needs evaluations, and then the college collaborates with the company to produce clear-cut competency statements to guide course design, much as Tri-County uses. To keep the course in line with the competency objectives, course instructors conduct interim evaluations using student feedback and revise the course as needed. This kind of formative evaluation is conducted during customized training delivered by most of the colleges studied and has proven invaluable in making sure that trainees are indeed learning the skills they are being taught, and that these are the skills stipulated by the agreement between the college and the company. Colleges may also encourage a company to conduct its own interim evaluation, so that the company can ascertain whether the skills being learned are the skills it truly needs. Should any inconsistencies be revealed, the company and college can collaborate on course modifications, as needed.

Barrier 23: College course designers may run into problems with persons taking customized or other special training who do not have sufficient basic skills to learn the more advanced skills being taught.

Solutions

At Macomb, Triton, and Tri-County, applicants for special training courses are all pretested in basic skills, which may include basic reading, math, English comprehension and verbal ability, mechanical aptitude, and so forth. For Macomb's robotics training program, applicants go through a 2-week pretesting period that measures mechanical aptitude, space relations, abstract relations, math and English, and mechanical space relations skills.

To compensate for trainees' basic skills deficiencies, most of the colleges have begun to include math and reading review modules in their customized training courses, to serve as "brushups" for students whose skills have deteriorated through disuse. At SOCJC, students whose skills are insufficient to enter special training courses are offered remedial, open-ended courses, such as math review, where students' individual needs and levels are identified and materials are provided to bridge the gap between basic skills deficiencies and the skills to be covered in the special training course. Students review the individualized materials and are usually able to enter the special training course within 8 weeks or less.

At Triton, persons whose basic skills are not adequate for Job Training Institute (JTI) programs are counseled to get tutoring, including tutoring in English as a second language, at the college's Learning Assistance Lab. If such prospective trainees insist on taking a JTI course without the remedial tutoring, they are required to sign a disclaimer absolving the college from responsibility if they fail the course.

Barrier 24: Adult students demand more in terms of training content and instructional methodology than do traditional community college students coming directly from high school.

Solutions

At Tri-County, instructors are required to conduct interim student evaluations regarding the effectiveness and interest level of the material and instructional modes and to modify those as needed. Instruction is delivered in a wide variety of modes--videotapes, roleplaying, hands-on experiences that relate academic instruction to the job, slide-tape presentations, paper-and-pencil activities, group discussions, and so forth. These modes are intermixed to maintain a high level of student interest. Students also have access to videotapes of the operations they are trying to learn so they may review the operations and assimilate the material more or less at their own rate.

Triton's courses have built-in adult education techniques that vary the instructional modes to maintain student interest. Some courses are on videotape and course content may be studied at the students' own pace during a semester. Some courses and labs are open-entry/open-exit so students may use the equipment at their own convenience during certain hours or on certain days.

At SOCJC, all of the courses are competency based and individualized to focus on students' individual needs in developing specified competencies. The college's philosophy is to strive to serve individuals first, because individuals are the basic unit upon which industry's labor needs must ultimately depend.

Most of the colleges studied provided some form of training in the instruction of adult learners for their adjunct faculty who deliver most adult training.

Barrier 25: Too often, persons in retraining programs for the unemployed come to the termination of their unemployment benefits or other resources, and must drop out of the training before completion.

Solutions

This is a most serious problem in states such as Michigan, where high rates of unemployment make such retraining opportunities a vital hope, but where unemployed workers and their families increasingly find themselves at the end of their financial tethers. The retraining program in robotics offered by Macomb College in cooperation with the Downriver Community Conference has run into this problem frequently. The Downriver Community Conference has tried to help keep such trainees in the program by providing a small stipend (at minimum wage) for the time trainees spend in class. If such trainees are on government assistance (their unemployment compensation having run out), the Downriver Community Conference also gives them a stipend of $30 to $40 dollars a week, plus $10 dollars toward gas for travel.

This small incentive apparently can make the difference to some trainees between having to drop out of the training or being able to complete it and go on to find employment in robotics.

Barrier 26: Colleges may find it difficult to stretch limited resources to meet the challenge and additional costs of providing customized training.

Solutions

The presidents at the five colleges studied are particularly active in seeking ways to stretch their colleges' limited resources, making "the most of what we have." Some presidents become entrepreneurial to a great degree, getting funding from as many sources as they can find. They look for equipment donations and facilities. They try to set up special training relationships with industry and trade associations, as well as with professional associations. They campaign for gifts of scholarships. For customized training efforts that are not funded by the state, they become involved in determining how those courses can be offered in the most cost-effective manner both for the college and the company. Often this results in customized courses requiring a certain minimum of students in order to maintain at least a break-even status on expenditures. Some colleges (such as Macomb) cannot always stretch resources to meet all customized training requests, but do serve industry at least in the capacity of brokers to help them locate expert trainers to deliver the needed training.

Flexibility of Resources

Barrier 27: Competition is keen for limited space on campus to conduct both special training (including customized training) and regular college programs.

Solutions

Where practical, most of the colleges deliver customized training courses at off-campus sites, most frequently at the company's site. Triton also uses hotel or other facilities when necessary. For Tri-County's Special Schools training, it is the responsibility of the local county councils, together with the TEC system area commission, to set up and pay for facilities off-campus, if necessary.

Some colleges designate certain areas of buildings as special training centers, but overflow and competition for some facilities and equipment remain a perennial nuisance. SOCJC has open landscaping in all its facilities, and dividers can be moved around to give considerable flexibility to classrooms and offices, but this is not always sufficient to meet all training needs. Triton College puts its Office of Research to work scheduling usage of space for competing programs in order to determine the best ways--and times--to share facilities during peak periods. Triton also uses new buildings and training facilities built on campus through unique cooperative relationships with trade associations. Collaborative scheduling allows the associations and the college to share training facilities both for the association's special training and regular college programs.

Creative scheduling is another important solution to conflicts for space and equipment. Triton has at least partially resolved the problem of demand for its word processing lab by scheduling special training programs' use of the facilities at unusual times, when regular classes are not using them. Memphis also uses creative scheduling to resolve conflict over the use of its computer facilities by running some of its customized computer training courses out of sync with the school quarter, when regular demand is greatly reduced. Macomb runs Saturday classes, midnight or early morning classes, classes on holidays, and classes between semesters in order to give trainees in special programs access to equipment that otherwise is in heavy use. Triton uses the same strategy to considerable advantage.

Barrier 28: Working adults and companies needing customized training are often unable to use traditional schedules.

Solutions

Triton and several of the other colleges make extensive efforts to meet the training needs of adult workers by offering courses at unusual times to fit unusual needs. For example, Triton has a Midnight College program offering a variety of training classes that run throughout the night. These courses are especially convenient for persons working a second shift. Triton's "Breakfast of Champions" is a menu of courses available in the very early morning (6 a.m. and later) for adults wishing to take a class before going to work. Weekend College courses at Triton enable working adults to bring their children into the classroom, where subjects are taught so that both parents and children may engage in interesting learning opportunities. Also at Triton, open-entry/open-exit courses allow adults to view videotape courses modules and/or to make use of lab facilities on a flexible schedule of their own choosing.

At SOCJC, the academic calendar overlaps, with essentially seven different official entry points throughout the year (every 8 weeks) when students can begin courses. Every course taught at Memphis is videotaped so that if working adults are forced to miss a class, they can go to the Learning Resources Center and review the tape.

To meet industry's training needs, most of the colleges will begin a customized course at any time of the year, because when companies need training, they very often need it immediately (or nearly so), not when it is convenient for the college to start up a new class. SOCJC's frequent course-entry schedule gives greater flexibility for customized courses that are run on campus, though the college will begin a new course at any time if the need is great. Triton is able to customize a seminar or short course on fairly short notice, and uses flexible scheduling to enable sharing of facilities on campus for courses that cannot begin off campus. Memphis' Business, Industry, Government Division frequently operates its customized training courses out of sync with the rest of the college, and while this has created some auditing problems (because all customized courses there are given for credit and reimbursed in part by the state), the flexibility is considered a vital part of the college's economic development commitment.

Barrier 29: Colleges face problems keeping up-to-date equipment for high technology programs.

Solutions

It may be all but impossible for 2-year colleges to acquire truly state-of-the-art equipment in high-technology areas for training programs. As Clem LePack, section chief of management and education for Western Electric (Oklahoma City) points out, "It is impossible . . . for any school to keep up with what is going on in industry. In our particular case, you put your new machines into your own development groups, you don't give them around to schools . . . you supply your customers first."

Even so, colleges must strive to acquire access to high-technology equipment, even if that equipment is not the very newest, "cutting edge" equipment. For this purpose, most of the colleges studied actively seek loans or donations of equipment from industry. For many customized courses, the colleges turn to the requesting companies to supply the equipment, or try to gain access to in-plant equipment for training at times of the day when the equipment is not normally in use (or between peak usage times).

Tri-County has access to a state equipment pool through the TEC System, and the state's six Innovative Technical Resource Centers are busy acquiring up-to-date equipment in each of their specialty areas. Some of this equipment is slated to be installed in mobile demonstration and training lab units that can be moved around to the different colleges or other sites as needed.

Triton College has resolved a number of its equipment problems by bringing trade association headquarters and training facilities onto the campus. The trade associations maintain the most up-to-date equipment for their training programs and share the facilities and equipment with the college's regular programs as well.

Barrier 30: Outside institutions that previously have provided free cooperative education opportunities for community college students are now beginning to charge for those opportunities.

Solutions

The problem, of course, stems from the fact that hospitals and similar institutions are also suffering budgetary problems and must find new sources of funding. It seems at this time that colleges will have to find monies to pay for such clinical education opportunities. Alternatively, colleges could close such training programs and allow hospitals to do their own training--whereupon the hospitals would find their training costs soaring. The mutual dependency of the institutions needs to be recognized.

Internal Organization and Cooperation

Barrier 31: Staff resistance and institutional red tape within a college may reduce the efficiency and effectiveness of the college's economic development outreach efforts.

Solutions

First and foremost, administrators emphasize that economic development needs to be identified clearly as a major component of the college's mission. Colleges involved in economic development outreach also need a "team spirit," wherein all staff and faculty understand and feel part of the college's economic development efforts. At both Tri-County and Triton, the priorities, goals, and pace come down from the college presidents, and faculty and staff are apprised at every opportunity of those priorities and of the college's successes. At Triton, the management style is free, allowing staff and faculty to pursue economic development activities in their own individual ways. So long as the job gets done, there is freedom in how the Triton staff does it.

At SOCJC, the college conducts a 2-day annual management retreat (about 30 staff from mid-management on up) to go through a process of prioritizing the ideas and concerns of all staff and students. This group then decides on the institutional goals for that year and delegates responsibility for them throughout the college structure.

At Memphis, the Business, Industry, Government Division coordinators can call for assistance from anyone in the institute if help is needed. The institute's priorities are well communicated to the staff and faculty, and everyone seems to have the commitment to do whatever is needed. There is heavy reliance on the use of interdepartmental memos to convey needs for assistance, and staff members expect to have to "do things a little faster or differently" now and then to get the job done.

In fact, being willing to bypass or cut through procedural red tape when necessary is a characteristic of the most active colleges in economic development outreach. For example, at Triton, computerization is used as much as possible to speed up ordering books and other tasks, but staff members do not hesitate to resort to pencil and paper, telephone calls, or whatever it takes to get the job done.

Colleges having contracts with full-time faculty members usually use direct negotiation, but this can lead to troublesome delays. At Macomb, faculty members have shown considerable flexibility, even though in some instances the college has had to override some guidelines previously established. The strength of Macomb's internal responsiveness lies in the fact that the administration first acquired the understanding and cooperation of senior faculty representatives.

Barrier 32: Unclear internal structure for handling economic development efforts may create confusion among faculty and staff, as well as among companies requesting customized training services from the college.

Solutions

The simplest and perhaps most efficient strategy that was encountered is for a college to create an internal organization and/or to identify a specific staff member (or members) as the primary contact and organizer for the college's economic development outreach efforts. Memphis has its Business, Industry, Government Division and coordinators, who are selected for their good human relations skills--which not only enables them to deal effectively with industry representatives, but also facilitates good working relations with other college staff and faculty.

Triton takes a somewhat more diverse approach, with the president and all top administrative staff being contacts with industry, along with the heads of the Employee Development Institute and the Job Training Institute. Tri-County has a similar arrangement, although the industry services coordinator is the main industry contact for start-up training. At these two colleges, the involvement and awareness of faculty and staff are such that industry representatives can contact any staff member initially and word will be passed along to the right people.

SOCJC appears to have melded the best elements of both the concentrated and diversified approaches. On the one hand, industry contact is decentralized, with every staff and faculty member being a part of the team. This is based on the notion that faculty members are the most knowledgeable persons to talk to industry representatives about their specialty areas. On the other hand, SOCJC does have an industry service coordinator who coordinates economic development outreach activities throughout the college, and who is responsible for following up on faculty contacts with industry, as well as for calling on industry himself.

At all of the colleges studied, the issue of interdepartmental territoriality over the delivery of customized training is a moot one. Departments and divisions seem willing to share responsibilities, and most faculty and staff members are kept informed of the colleges' priorities and expectations in that regard. In all cases, the support and influence of the college presidents are major elements in ensuring clear communications and willing cooperation.

Barrier 33: There may be poor articulation-or sometimes competition-among sister colleges for economic development outreach efforts, especially for customized training opportunities.

Solutions

Although the opportunity for considerable competitiveness among the 16 TEC System colleges in South Carolina would seem to be great, the state offices of TEC oversee the distribution of funds and equipment among the colleges and coordinate the articulation of curricula as well. In Michigan, the absence of coordination of community college services at the state level is quite noticeable, and is probably responsible (at least in part) for the sometimes acute competition among the state's 2-year colleges for customized training opportunities and other potential resources.

The State Technical Institute at Memphis does not compete directly with its sister organizations for students, funds, or customized training contracts. In fact, Memphis gives as many customized training opportunities as it can to area vocational schools in West Tennessee in order to reduce the competition for space and resources on its own campus as much as possible without compromising the quality of instruction. It also articulates many of its curricula to its sister institutions. Memphis faculty and staff are well aware that economic development outreach is the number two priority in the institute's mission statement, and that economic development must be a statewide effort.

Faculty and Staffing

Barrier 34: It is frequently difficult to find qualified instructors-often on short notice- to teach customized courses.

Solutions

Four colleges studied rely primarily on part-time faculty or consultants to teach customized courses or seminars. The major reason for using them is that such instructors--who usually are also employed full-time in the specialty--have the most up-to-date skills and knowledge available in the training subject. Quite often, especially for seminars and workshops, such instructors have practical, hands-on experience with the theories, processes, and/or equipment involved. In addition, these experts are often willing to travel to off-campus sites to teach, and to teach in the evening hours or other times convenient to the company and/or trainees.

Triton College is in a particularly advantageous region for finding qualified part-time instructors in a plethora or specialties, because of its metropolitan Chicago location. The college also makes effective use of its many contacts through professional networks, its advisory committees, its other customized training customers, its relationships with trade associations, and other sources in order to locate and contact the best possible instructors for its customized training courses. Such instructors are generally contracted on a one-shot basis, though some adjunct faculty have been with the college for years.

Tri-County is also able to find part-time instructors for most of its customized courses because the college is located in a retirement resort area. Many eminently qualified retirees teach customized courses for the college. Tri-County and several other colleges may also use skilled employees or even training personnel of the company as instructors for the course. This is often necessary for highly technical training because the course content may be proprietary. SOCJC has even gone to a competitor company to find an instructor for a customized course, simply because that person was most qualified to teach the course.

At Macomb, full-time faculty members in the various specialty areas are responsible for providing and updating lists of candidate instructors for customized training in their specialties. [illegible] full-time faculty members consult [illegible] candidate instructor files and make recommendations for prospective instructors upon request. They sometimes make initial contacts with the prospective instructors. This strategy has not always been completely successful, as lists are inadequate for some specialties.

Barrier 35: Regular, full-time faculty demand the first shot at teaching all customized courses.

Solutions

At Memphis, the business, industry, government coordinators, with assistance from the industrial relations and outreach staff, do all recruiting for customized training. The staff members of the division do try to find a qualified full-time faculty member to teach the course before looking outside the institute.

At Macomb, the faculty contract procedure requires that when a continuing education opportunity arises (this includes customized training), a notice must be posted for at least 5 days to give regular faculty the first chance to bid on teaching the course. Most do not bid, however, because many of the courses are conducted off-campus or at odd times. Also, in many colleges, continuing education salary rates are lower than regular teaching rates (although in some, such as Tri-County, the rates for customized instruction can be substantially higher).

Of course, there are occasions when part-time instructors cannot be found to teach customized courses, especially when the courses are offered during normal working hours (8 a.m. to 5 p.m.). At SOCJC, many customized courses are held during the daytime working hours, when employees get released time from work. SOCJC has found that most part-time instructors can only teach evening classes, so the college relies heavily on its own full-time faculty. Where possible, those faculty members get released time from part of their normal teaching load, and if the assignment goes beyond their regular workload, they receive overload pay.

Barrier 36: Part-time faculty have technical expertise in their specialty, but may not be skilled or experienced in instructing adult workers.

Solutions

At Tri-County, the college offers a special Job Instruction course on fundamental adult instruction, just to train instructors how to teach customized training courses. Triton has a variety of approaches to helping part-time instructors become effective teachers. New part-time faculty members are assigned a full-time faculty member as a mentor. Instructional methodology and other important topics are covered in seminars open to both full-time and part-time faculty on Saturdays, with a small stipend as an incentive to attend. "Meet and eat" sessions are provided to Triton's part-time instructors, in which speakers give brief talks on instructional methodology and other topics of interest prior to evening classes. Finally, new part-time faculty at Triton are given an "instructor's survival manual" containing teaching tips and other useful information.

Barrier 37: Colleges may have problems keeping full-time faculty upgraded in their specialties.

Solutions

For specialities where instructors need to be on the cutting edge of developments, perhaps the most effective solution the colleges use is to send the instructors into industry to receive hands-on experience with new applications. At Tri-County, instructors are encouraged--and rewarded--for seeking industry experience during the summer, and in some situations, the college has been able to set up cooperative arrangements with companies or even research centers at universities in order to train college instructors and upgrade their knowledge and skills. Triton College rewards its faculty for seeking industry experience by giving "points" toward raises and promotions. While Memphis also praises this strategy, so far only about two of its full-time faculty per summer have been able to take advantage of the "return to industry" experience.

Tri-County also sends its faculty along with students to take its own customized courses when those courses are taught by industry instructors. But most colleges must rely mainly on providing occasional seminars or workshops for faculty, on bringing in experts to speak on vital developments, or providing small allowances for individual or departmental staff development purposes. SOCJC recently conducted computer literacy and applications sessions for all departments in the college. Triton conducts its Saturday morning lectures for faculty, and also provides $150 in travel allowances during the school year for each full-time faculty member to attend professional development workshops or other activities.

Other Economic Development Outreach Services

Barrier 38: Colleges must find ways to meet the training needs of entrepreneurs and small businesses that cannot afford customized training.

Solutions

Both Tri-County and the State Technical Institute at Memphis have small business institutes to serve local small business training needs. These institutes are part of a small business network that is a project of the American Association of Community and Junior Colleges and is partly funded by it. SOCJC also participates in this network.

Macomb has its own Small Business Institute which helps small businesses in the Warren-Mt. Clemens area. This institute provides early morning classes ("Sunrise Seminars") for small businesses and for entrepreneurs. The college also offers business courses for entrepreneurs at a local shopping mall.

Barrier 39: Colleges may find it difficult to deliver much-needed counseling and placement services (for training and finding jobs) to the community at large.

Solutions

Some of the colleges try to meet at least some of this community economic development need through seminars and workshops. Triton College, for example, recently conducted a 1-day job clinic that offered occupational and training information, resume preparation clinics and aid, placement aid, counseling, and other 1-hour talks or workshops related to the problems of unemployment and job seeking--all free to the public.

As part of a U.S. Department of Education project (the Collaborative Community Career Guidance Program), the National Center for Research in Vocational Education trained Macomb Community College counselors to provide guidance counseling to the public in such locations as public libraries, in order to maximize guidance counseling outreach. The philosophy of the approach is that community colleges need to institute "storefront counseling" in order to take career guidance out to where the citizens are and where they will feel comfortable in using the service. This project is part of a long-term plan for even greater outreach, which may involve taking guidance counseling into other public and semipublic locations such as shopping centers and union locals.

Critical Elements and Recommendations

Analysis of the five community and technical colleges and the industry services they provide has afforded some unique insights into the critical factors for effective participation by 2-year colleges in local and state economic development and the delivery of training for industry. These recurring themes or elements for successful upgrading and retraining of workers also constitute recommendations to practitioners and policymakers who wish to become or already are involved in meeting their communities' job-related training needs. This section describes some of those critical elements and makes suggestions for how they can be incorporated into colleges' economic development outreach efforts.

1. **Strong leadership on the part of the college president is essential in mobilizing the college to serve industry and to aid in local and state economic development.** College presidents who see the need for their institutions to become thus involved should take the initiative instead of waiting for their states to mandate their involvement. Presidents must educate themselves and their key staff members to the potential roles that

2-year colleges can take in economic development that are beyond the scope of regular occupational education and continuing education programs. Other critical tasks are to assess community and industry training needs and to make initial contacts with and seek the cooperation of local industries, organizations, and agencies. At the same time, presidents should make a priority of communicating the new institutional goals to their staff and faculty, and should seek new ways to inspire them to a sense of commitment and cooperation. Presidents must also reallocate the resources of their institutions to address the new priorities.

2. **The visible commitment of top college administrators is a key in fostering commitment throughout the college to serving industry.** Commitment results when governing boards, administrators, faculty, and support personnel are willing to do whatever it takes to get results. The drive for such commitment must come from the college president and top administrative staff, who must educate college staff and faculty, the board of trustees, and community leaders in the crucial economic development roles of 2-year colleges. This commitment is based on the realization that the economic development activities of the college--including serving the training needs of industry directly--have the potential to improve life for everyone in the community.

3. **An explicit statement in the college's mission statement or the institutional goals of the president should commit the college to providing special training and educational services to industry.** By specifying such services to industry in these important documents, it becomes clear to everyone--both internal and external to the college--why the college is there and what it is to accomplish. Such a statement should also be supported by clear and visible internal structures and procedures for operating the industry services programs, for promoting and communicating the college's intentions and related needs to all relevant outside organizations and agencies, for finding resources to initiate and support the industry services, and for keeping always in view the mission of the programs and their feasibility.

4. **Institutional flexibility is crucial in responding to industry's upgrading and retraining needs, as well as those of adult workers.** Industry's needs usually do not fit colleges' regular patterns of operation. Companies' requests often stipulate training at the company site. Starting times and program lengths seldom conform to the academic schedule, and companies usually want the training to start almost immediately. To customize curricula and find instructors, books, and equipment may require special action within the institutions. Flexibility must be built into institutional budgets to enable industry training activities to take place despite the unpredictability of training demands.

   Colleges must also become flexible to meet the training needs of adult workers. This means being as flexible as possible in scheduling classes, sharing labs and high demand equipment, locating instruction, using instructional modes, and providing alternatives to class attendance for adults with home and other outside responsibilities. Other nontraining assistance to help adult workers or the unemployed to attend classes and complete their training may require institutions to build basic skills remediation directly into customized or other special courses, as well as to provide tutoring, child care, financial aid, and other kinds of assistance.

5. **Good communications--both with outside organizations and within the college itself--are pivotal to serving**

industry's training needs. Colleges must communicate clearly to industry what kinds of services they offer that will help companies increase their productivity through investment in upgrading and retraining employees. To that end, colleges need a structure for marketing their services as well as effective strategies for contacting local and prospective employers. The major tasks of the marketing unit must be to communicate what services the college offers, how the services may be delivered, how dependable the college is in making good on its promises, and what benefits there are for companies that use the upgrading and retraining programs. College representatives must also listen carefully to companies' expressed needs and must seek opportunities to meet those needs. Finally, internal communication lines and clear procedures are needed within a college to enable information about opportunities to serve industry to reach the right people promptly, and to facilitate interdepartmental cooperation in developing and delivering industry training.

6. **The college must convince industry of its commitment to serving industry's training needs.** Colleges must make their commitment visible to companies. One way is through official mission statements and established industry services units. Another is being part of a state-level economic development system with mandated funds to support customized training. But perhaps most convincing is establishing and maintaining a track record of sound successes and no failures--"nothing succeeds like success." This means that colleges must give careful attention to the details of planning and delivering training programs. College representatives should *listen closely* to what companies are telling them, and should "speak industry's language" to gain the respect and confidence of management and workers. Finally, colleges must be ready to back their commitments, no matter what problems may arise. A college that backs out of a commitment or fails to deliver on its promises loses its training credibility. More resources may be expended recouping a college's damaged reputation than are likely to be spent supporting an underbudgeted course or revising a program in midstream to make it deliver what was promised.

   Labor organizations must also be convinced of colleges' commitment to serving them. In colleges' education outreach, labor organizations often feel left out or ignored. College representatives need to learn how to establish relationships with and gain the confidence of labor leaders. Labor representatives should be included on appropriate advisory committees. Also college industry service representatives or college apprenticeship coordinators need to be aware of labor's educational needs and how to tailor the college's services to them.

7. **Accurate and up-to-date profiles of local industries are vital to serving local economic development needs effectively.** Such data reveal training needs and identify factors that have potential for increasing economic growth. An up-to-date profile of area industries is evidence of the extent of the college's involvement and commitment to meeting local industry training needs. An area profile can also be a powerful public relations instrument, showing linkages with industry, success in providing customized training, and a record of the college's responses to local economic development needs.

8. **Designating an office with specific responsibility for providing industry training services is critical to success.** This not only furnishes an identity for the college's services to industry and provides staff to do the job, but also--by allocation of these resources--demonstrates institutional commitment.

9. **Companies must see how they will benefit from using the upgrading and retraining services provided by the college.** Profit must be the "bottom line" for industry, and colleges must demonstrate clearly that they understand and support that priority for industry.

10. **Being an integral part of a state system for economic development is an advantage for a 2-year college.** Colleges that are part of a cohesive state economic development team usually have state funds allocated specifically for start-up or retraining programs, including funds for equipment. This kind of relationship also fosters good cooperation among the various agencies and bodies involved in economic development.

    In many states, 2-year colleges are not part of the states' economic development teams. Some states do not have specific economic development agencies, or economic development efforts are in their infancy. Two-year colleges in such states should lobby for more active roles in state economic development plans, and especially for funding for (at least) customized start-up training and for an equipment pool for the state 2-year college system. By becoming part of active state economic development efforts, 2-year colleges can greatly extend their capacity to reach out to meet industry training needs with up-to-date instruction and equipment.

11. **A staff development system that helps faculty keep up-to-date is crucial in delivering effective upgrading and retraining.** One of the challenges of working with industry is keeping instructors abreast of changing technologies. This is particularly essential in delivering customized training in high-technology specialties.

    Working with industry is good for faculty members, especially in terms of keeping their skills and knowledge up-to-date with the equipment and processes being used by local companies. The more experience faculty have with industry, the easier it is for them to relate meaningfully to the workers they train. Structured work experiences, whether during summer vacations or on sabbaticals, are proven staff development experiences.

12. **Active advisory committees are critical in providing information and contacts for quality upgrading and retraining programs.** Advisory committees can be useful at many college levels, including committees for regular program areas, for the industry services unit, and a committee to advise the college as a whole. Advisory committee involvement makes a significant difference in the quality and extent of the colleges' programs and services, especially when committee members are owners or executives of representative area industries.

13. **Up-to-date equipment is a key element in providing quality upgrading and retraining for industry.** Education often lags behind industry in using equipment available for training. But matching equipment used in instruction as closely as possible to equipment used in actual work is crucial, because the closer the training experiences are to actual work situations, the greater is the transfer of learning and the development of competencies needed on the job.

14. **Close coordination is essential among college industry services representatives, customized training instructors, and company personnel when planning, conducting, and evaluating customized training courses.** Colleges should follow this philosophy in order to ensure that the courses fit the needs of the company, follow its procedures, and adhere to its philosophy of training.

15. **Technically competent instructors who know how to teach adults effectively**

are necessary for quality training in an industrial context. The importance of the instructor in teaching adults in a work setting was stressed at all colleges studied. Often a potential instructor is technically competent but lacking in teaching skills, in which case inservice education is required to give the instructor the range of competencies needed to reach adults in the work environment.

16. **An institutional incentive system helps secure the involvement and cooperation of faculty in serving industry's needs.** Customized courses seldom fit usual college time frames and procedures. To encourage staff and faculty cooperation in such efforts, colleges should find meaningful ways to reward their people for the extra work and time they put in to make the courses work.

17. **The scheduling of courses at times and places convenient to companies and employees is critical to successful economic development outreach.** This particular area is highly dependent on college flexibility and creativity. It often means that a course may best be taught in a place of business or during working hours or immediately after them, or even during the "swing shift." Colleges must be willing to go where students need them, when the students need them.

18. **Including time for course development and evaluation in schedules and budgets for customized training is crucial to successful programs.** To avoid budgetary problems and misunderstandings between industry and the college, a college should stipulate time and budget monies for the development of customized course as well as for their evaluation. A college should assign a staff person to develop the necessary course materials, and this person's time should be budgeted in the customized course funds in order to ensure that the work is accomplished and a quality educational experience is provided.

19. **"Quick response" is a key factor in meeting industry's training needs effectively.** Colleges must create or have in place a response mechanism that allows them to respond quickly and flexibly to industry training requests and to assign appropriate staff and resources to the effort. Companies requesting training often want and expect the college to deliver such training very soon after request, because the companies' productivity and market competitiveness require employees to develop new competencies quickly.

20. **Sharing resources among related colleges--especially those within state systems--should enable more colleges to meet industry's training needs more effectively.** Colleges should seek ways to pool and share resources, even when the state system does not specifically support such activities. Pooled resources could include the sharing or lending of equipment, instructors, and curricula. A curriculum-sharing network may be the most immediately feasible type of resource-sharing activity and could be greatly facilitated by putting course outlines and other materials onto word processors and/or sharing the materials via electronic networking (using computers hooked into the phone system). Colleges with newly developed courses that are on the cutting edge of a technology may even be able to "rent" such materials to other colleges in the state or across the country, thereby recouping some or all of the course development costs.

21. **Evaluations and feedback mechanisms gauging the quality and outcomes of customized instruction should be built into customized courses in order to ensure successful programs.** Formative evaluations conducted at midpoint or at several points during a course are

invaluable for ensuring that a course is on target and that students are learning the competencies desired, because such feedback permits "mid-course" corrections to be made to steer the instruction into more appropriate directions, if necessary. Summative evaluations provide valuable information on the strengths and weaknesses of the course and the instructors that can then be applied to improving future courses. Summative data are also highly important to building a credible track record in customized training offered by the college.

Because of the changing nature of the economy, technologies, the job market, and worker expectations, colleges should review summative evaluation data periodically to get an overview of how effective and on-target their overall customized training policies and procedures are. Colleges should expect to have to refine or revise such policies and procedures periodically. Also, the policies and procedures should be expected to change as colleges mature in their customized training outreach efforts. The needs and capabilities of a college just beginning such efforts will not be the same as those of a college with a more established program.

Summary

Strong leadership of the college president is essential in mobilizing the college to serve industry and to aid in local and state economic development efforts. Commitment throughout the college--administrators, faculty, and staff--is required to get results. This commitment must be visible to persons both within and outside the college. One way to help ensure such commitment is for the college's mission statement or the goals of its president to specify the college's role in serving the training need of industry. Another is to create a special office or division assigned to facilitate this function.

Good communication between the college and industry is likewise essential to developing effective working relationships. Companies need to see how they will benefit from using the college's training services, and colleges depend on feedback from industry to focus training programs and other economic development activities. Industry services coordinators should work closely with course instructors and with company executives or training directors in planning and conducting customized courses.

Institutional flexibility is a key in responding to industry's upgrading and retraining needs. Flexibility is necessary in scheduling courses, assigning instructors, finding and sharing facilities and equipment, funding the programs, and providing support services. The equipment used in such courses must be up-to-date to maximize the transfer of learning and the development of needed competencies, especially in high-technology areas.

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Chapter 11

Dealing with Organized Labor's Barriers to Linkages

Organized labor and vocational-technical education can accomplish more by working together than by working alone, or worse, at odds with one another. Organized labor possesses a wealth of technical knowledge about the workplace, whereas vocational-technical educators possess a wealth of instructional expertise. Organized labor can provide on-the-job instruction to trainees through apprenticeship and cooperative education programs, whereas vocational-technical education is well equipped to provide the necessary related instruction in their classrooms and laboratories.

While it is widely acknowledged by many that vocational-technical educators and organized labor leaders should be working together harmoniously for the reasons cited, the fact is that the degree of cooperation ranges from little to none in many states and communities to extensive collaboration in some states and localities. This chapter will discuss some of the barriers to cooperation and present some guidelines for more effective linkages.

The material in this chapter has been excerpted and adapted from the following document:

> Norton, Robert E., and Belcher, James O. *A Guide to Linkages Between Vocational Education and Organized Labor in the United States.* Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984.

Barriers to Linkages

The barriers, facilitators, and guidelines discussed below are one result of information gathered from a study that involved a large number of general and vocational educators, organized labor representatives, governmental personnel, and professional association members. As part of the study's data collection effort, each individual was asked what he or she believed to be the barriers to effective linkages with organized labor.

The various barriers are presented in a manner designed to capture the full meaning of the concern or hurdle being discussed. It is the opinion of the authors that some respondents have exaggerated to make their point and that other responses reflect personal opinions that may or may not be totally true or may be reflective of only the climate in their particular state.

The authors hope that, by the specific presentation of many of the views expressed, the real issues preventing closer cooperation can be dealt with effectively, at least in many cases. After each barrier statement, the position of the respondent is given in parentheses to provide the reader a better understanding of the viewpoint being expressed. The barriers identified have also been clustered into the following eight categories:

- Feelings of mutual distrust
- Problems involving communication
- Program control concerns
- Problems involving financial matters
- Concerns about trainee placement
- Concerns about program quality
- Concerns about research
- Lack of concern for training

The reader should note that some of the barriers are complex and of much greater significance than others. All of the views presented, however, are considered worthy of consideration and have implications for corrective actions that could be taken either to reduce or remove the barriers.

Feelings of Mutual Distrust

Barrier 1: There is a pervasive suspicion among labor unions of academic institutions, including public schools and postsecondary colleges. (state department educator)

Barrier 2: Many times organized labor incorrectly perceives vocational education to be a threat to established apprenticeship programs, rather than a source of potential apprenticeship applications. (state department educator)

Barrier 3: Some administrators and teachers believe that unions are hurdles that provide little worthwhile assistance. (researcher)

Barrier 4: The vocational education system that organized labor helped to create has become competitive and hostile to the formal apprenticeship system. (national labor union official)

Problems Involving Communication

Barrier 5: Poor or limited communication exists between vocational education and organized labor leaders. (education dean)

Barrier 6: There is an overemphasis by school administrators on advisory committees as the sole technique for achieving organized labor cooperation. (researcher)

Barrier 7: Many secondary and postsecondary vocational schools do not provide any instruction on the existence of the AFL-CIO or other organized labor groups. (commissioner in department of labor)

Program Control Concerns

Barrier 8: Many unions want to restrict the labor supply in ways that are contradictory to the goals of vocational education. (state department educator)

Barrier 9: Organized labor has traditionally sought to maintain control of the development of the curriculum as well as the selection of instructors for apprenticeship programs. (state department educator)

Barrier 10: Unions want a scarcity of workers because that drives up both wages and benefits and that is far more important to them than any educational goals. (state department educator)

Barrier 11: Some school administrators are concerned that organized labor groups will become special interest pressure groups. (researcher)

Barrier 12: Some preapprenticeship programs for high school students have purposely avoided linking with organized labor so as to avoid "turf" fights. (state department apprenticeship coordinator)

Barrier 13: Some prolabor leaders believe that vocational education has been taken over by procorporate educators and bureaucrats. (National Institute for Education staff member)

Barrier 14: Secondary and postsecondary schools have generally excluded organized labor from the program planning process. (union director of education)

Barrier 15: Nonunion administrators and instructors in vocational education have begun to assume that they are offering the full and complete training experience; some vocational educators believe that they should be able to confer journeyman status. (national labor union official)

Problems Involving Financial Matters

Barrier 16: Limited financial resources prevent vocational educators from making more contacts with labor unions. (state department of education official)

Barrier 17: Limited financial resources prevent vocational education from providing more support for related instruction for apprentices. (three state department of education officials)

Concerns about Trainee Placement

Barrier 18: Organized labor is reluctant to assist cooperative education coordinators with the placement of students in suitable training stations. (state department of education consultant)

Barrier 19: The severe shortage of work in some trades precludes the placement of many apprentices. (state director of vocational education)

Barrier 20: Vocational education trains people in much vaster numbers than unions do, whether the industry needs them or not. (national labor union official)

Concerns about Program Quality

Barrier 21: Government procedures for accrediting and evaluating vocational training schools are less than adequate. (union director of education)

Concerns about Research

Barrier 22: Most current research into labor-education relationships seems to be designed for the researcher instead of the practitioner. (state department researcher)

Lack of Concern for Training

Barrier 23: Traditionally, some unions have not tried to become directly involved in vocational education programs under the assumption that job training and preparation for work is the function of the school system. (union education director)

Guidelines for More Effective Linkages

What causes close and cooperative working relationships to exist in some states and communities, whereas almost bitter and antagonistic relationships exist in other states? From the information gathered through reports, letters, and telephone calls, the following guidelines are offered to help vocational education, organized labor, and government officials at all levels improve vocational education programs for youth and adults by strengthening the relationships between organized labor and vocational education. As researchers who have been privileged to review confidential materials and to talk personally with many concerned persons, we feel these guidelines will enhance efforts to promote and maintain more effective collaborative efforts to the mutual benefit of all concerned.

- *There is a need for more open and honest communication between leadership persons in both vocational-technical education and organized labor.* Good communication requires that each person in organized labor and vocational-technical education sincerely seek to understand the other's views, roles, and responsibilities.

- *There is a need to recognize the existence of several important and shared goals on the part of both vocational-technical education and organized labor.* Both groups are concerned with the preparation of youth and adults for productive and satisfying employment. That major goal, while not the only common one, should be reason enough to consider cooperation seriously.

- *There should be an open recognition of the existence of some conflicting goals between public vocational-technical education and organized labor.* It should be acknowledged that although both parties may disagree on some issues, there is no reason to be disagreeable and, hence, dismiss all types of cooperation.

- *There needs to be wider recognition by both vocational-technical education and organized labor that much more can be accomplished by working together toward common goals than by working separately, or--even worse--by working against one another.* Limited resources, the need to pool the talent of both groups, and the mammoth training and retraining job that must be accomplished make closer cooperation an essential and sensible approach.

- *There is a need for everyone concerned at all levels to take the initiative in establishing personal contacts and relationships with their counterparts in vocational-technical education, organized labor, and government.* There is clear evidence that where individuals have taken the initiative in sincere and appropriate ways, cooperation and mutual benefits have resulted. We must abolish the "let them take the first step" attitude.

- *There is a need to avoid unjustified exaggeration and unfounded criticism of each other's efforts and points of view.* Both organized labor and vocational-technical education have made major contributions to our society and democratic way of life. These contributions should be acknowledged by each side and form a basis for constructive dialogue with each other.

- *There is a need to share control through appropriate representation of organized labor and vocational-technical education on state boards of education, advisory councils, and advisory committees.* Both sides need to avoid the "unless we can control it we won't cooperate" syndrome. Each party can and should willingly contribute expertise and resources toward improvement and expansion of the programs needed.

- *There is a need for more state, regional, and national conferences where vocational-technical educators, organized labor, and government officials can join together for constructive dialogue.* One national conference a year, although helpful, is far from adequate for the type of information and ideas exchange needed.

- *There is need for more research on the problem areas of common concern to both vocational-technical education and organized labor.* Many problems, such as credit for advanced placement, competency-testing, and matching training positions with job openings, could be addressed through joint research efforts.

- *There is a need for both organized labor and vocational-technical education to contribute more financial and other resources to the implementation of training programs for youth and adults.* Strong leadership is required at the local, state, and national level to meet this critical need. All our youth and adults should be entitled to an appropriate opportunity to train or retrain for successful and satisfying employment. State and federal funds also have an obviously important role to play here as well.

- *Educators at all levels need to be willing to recognize and to instruct their students about the important role that organized labor has played in our society.* Appropriate units on the role of organized labor in America need to be developed and widely disseminated to vocational-technical educators. Staff development for their effective use should be offered.

- *Labor and education leaders should promote cooperative and effective working relationships between vocational-technical education and organized labor leaders.* The attitudes and ideas espoused by these persons can be powerful motivators for encouraging collaborative and mutually beneficial relationships at the state and local levels.

Summary

There is much to be gained and little, if anything, to be lost through increased collaboration by vocational-technical education and organized labor, as both strive toward the mutually agreed upon goal of more effectively preparing America's work force for tomorrow's jobs. Both vocational-technical education and organized labor are especially concerned with the approximately 80 percent of the population who will enter the work force as semiskilled, skilled, and technical workers. Both groups want today's and tomorrow's workers to be productively employed in real jobs of their own choosing. Both labor and education want programs that are up-to-date technologically and that seek to maximize benefits for the youth and adults involved, whether they are undergoing training, retraining, or upgrading. Both seek to maximize the impact of the always limited financial resources available for education and training. These barriers to linkages and guidelines for more effective linkages provide a basis for constructive action for anyone wanting to develop new linkages or expand current efforts within their state or community.

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